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THE
JOURNAL

OF THE

ROYAL AGRICULTURAL SOCIETY
OF ENGLAND.

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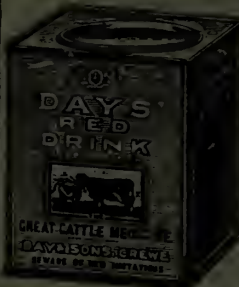
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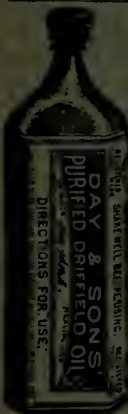
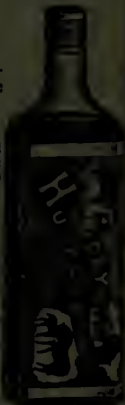
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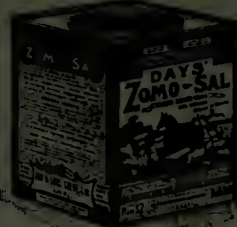


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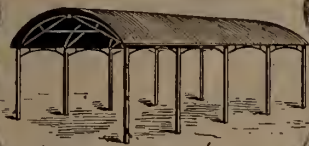
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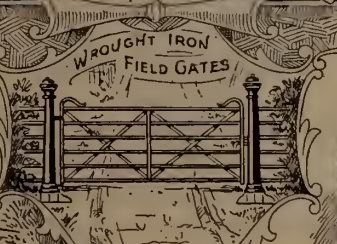
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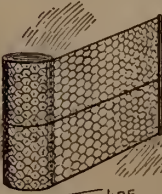
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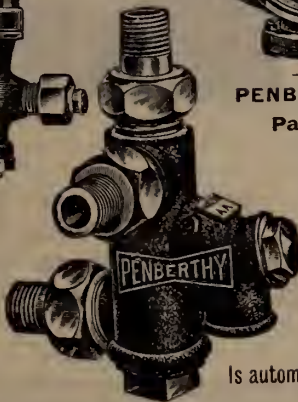
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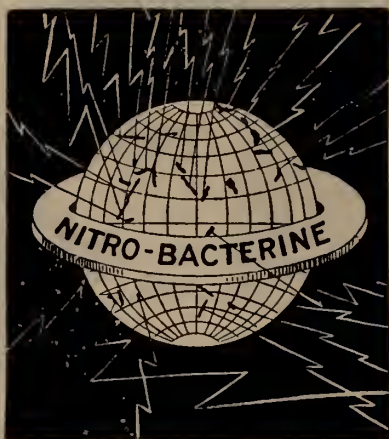
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Born February 28, 1830.

Died September 22, 1908.

JUST about the time of the Royal Agricultural Society's great Jubilee Show in Windsor Great Park, in June, 1889, as one outcome of which all those associated with the Society had to accustom themselves to addressing Colonel Kingscote as "Sir Nigel," and Mr. Wilson as "Sir Jacob," a somewhat remarkable man (now dead) was co-opted on the Council. He had been connected with a firm of agricultural engineers in earlier life, and was learned in all matters of farm machinery; but he had no taste whatever for live stock, and was no respecter of persons, however highly placed. He had, however, a great admiration for character, had read widely and deeply, and had fresh and piquant views on a great variety of subjects. He was a most useful man in committee, often interpolating some shrewd remark which summarised the situation, but he contented himself at the Council meetings with watching and observing the idiosyncrasies of his colleagues.

One day he suddenly said to me, "I want you to tell me the secret of the influence exercised by Sir Nigel Kingscote at Hanover Square. He cannot be said to be a good speaker; he is not so ready in the cut and thrust of debate as others holding opposite views; I should hardly call him farsighted or clever; and yet he always seems to dominate the Council. Why is this?" The best answer I could give on the spur of the moment was that Sir Nigel was a great gentleman, courteous and considerate to all, both high and low, a man of the highest honour integrity and simplicity of character, who said and did what he felt to be right without pose or regard for after consequences to himself.

But I subsequently showed my friend, who, being the author of a book was on the Journal Committee, a passage which I had quoted from Greville's Memoirs when writing in this Journal, in 1890,¹ a biography of the third Earl Spencer, better known in politics as Lord Althorp; and we were agreed that Sir Nigel Kingscote might be regarded in many respects as a re-incarnation of Lord Spencer. What Charles Greville wrote in his diary within a few days of the death, on October 1, 1845, of the first President of this Society, may be fitly applied to the fortieth President, who died on September 22, 1908, and I therefore again quote his words here:—

"No man ever died with a fairer character, or more generally regretted. In his county he was exceedingly beloved and respected, and his personal friends, who were warmly attached to him, highly valued his opinions upon public matters, and on all important occasions anxiously sought and placed great reliance upon his advice. His career presents few materials to the biographer, but he had sterling qualities of mind and character which made him one of the most useful and valuable, as he was one of the best and most amiable men of his day. He was the very model and type of an English gentleman, filling with propriety the station in which fortune had placed him, and making the best use of the abilities which Nature had bestowed upon him.

"Modest without diffidence, confident without vanity, ardently desiring the good of his country, without the slightest personal ambition, he took that part in public affairs which his station and his opinions prompted, with a straightforward bravery which was the result of sincerity, singleness of purpose, the absence of all selfishness, and a true, genuine, but unpretending patriotism. His tastes, habits, and turn of mind were peculiarly and essentially English; he was a high-minded, unaffected, sensible, well-educated English gentleman, addicted to all those rural pursuits and amusements which are considered national; a practical farmer, and fond of field sports, but enjoying all things in moderation, and making every other occupation subordinate to the discharge of those duties to his country, whether general or local, the paramount obligation of which was ever uppermost in his mind. His friends followed this plain and simple man with enthusiastic devotion, and he possessed the faculty of disarming his antagonists of all bitterness and animosity towards him."²

In fact, Sir Nigel Kingscote was, like Lord Spencer and Philip Pusey, the first Editor of this Journal, an excellent type of a fine body of men—the old country gentleman M.P. As Lord Welby—a close and attached friend of Sir Nigel—says in a letter to me which I am permitted to quote: "They ranged over many shades of character, from men of restricted ideas to men who could, like Pusey, hold their own in any generation, but they had a common quality of upright gentlemen, not swayed by pettifogging interests."

Sir Nigel Kingscote was a scion of one of the oldest families in the Kingdom—the Kingscotes of Kingscote, who trace their pedigree back to a period (985 A.D.) before the

¹ R.A.S.E. Journal for 1890, Part I., pp. 138-153.

² The Greville Memoirs, Vol. V. (Ed. 1888), pp. 301-4.

Norman Conquest. In the reign of Henry the Second, Adam de Kingscote obtained a confirmation (1188 A.D.) from his uncle, Lord Maurice Fitzhardinge, of the manor of Kingscote, which his father, Nigell Fitz-Arthur, had received as dower from his wife, Adeva, daughter of Robert Fitzhardinge, grandson of Sueno, the third King of Denmark, by Eva, niece of William the Conqueror. It is a family tradition that the domain so obtained is to this day exactly the same in size as when its dimensions were recorded in Domesday Book.

The head of the house a century ago was Robert Kingscote, a bachelor, who himself had succeeded a childless uncle. Robert was followed in February, 1840, by a nephew, Thomas Henry Kingscote, born January 19, 1799. Thomas Kingscote, who was a strikingly handsome and powerful man, 6 feet 6 inches high, and was considered the best heavy-weight rider in the Badminton Hunt, married in 1828 Lady Isabella Somerset, sixth daughter of Henry, sixth Duke of Beaufort. Lady Isabella was under twenty years of age when she married, and was only twenty-two when she died on February 4, 1831, less than a year after the birth, on February 28, 1830, of a son, who was christened Robert Nigel Fitzhardinge. Thomas Kingscote married again in June, 1833, and by his second wife, the eldest daughter of the first Lord Bloomfield, he had five sons and three daughters.

Of the early days of young Nigel Kingscote not much is recorded, but from his earliest youth he was a good rider and fond of field sports. He did not go to any public school, but got most of his education at a private academy near Weymouth, after which he went abroad for a year with a tutor. At the early age of sixteen he obtained, doubtless through the influence of his maternal great-uncle, Lord Fitzroy Somerset (afterwards Lord Raglan), a commission in the Scots Fusilier Guards. He became Ensign and Lieutenant in that historic regiment on October 27, 1846, was promoted to be Lieutenant and Captain on June 28, 1850, and on the breaking out in 1854 of hostilities with Russia, was selected by his great-uncle, now Lord Raglan and Commander-in-Chief, to accompany him to the Crimea as one of his aides-de-camp. It should be mentioned that at this time Captain Kingscote was a widower. He had married on March 13, 1851, Caroline, daughter of Colonel Wyndham (afterwards the first Lord Leconfield), but she had died in 1852, leaving no issue.

As to his experiences in the Crimea there is not much to be said. It is obvious from Kinglake's¹ three references to him that he was in close and devoted attendance on his relative, the Commander-in-Chief, and did his best to help in

¹ *Invasion of the Crimea*, Vol. V., 389; Vol. VI., 208, 341.

surmounting the difficulties of the campaign. When Lord Raglan died from dysentery on June 28, 1855, during the siege of Sebastopol, his remains were brought back to England in the steamship *Caradoc*, and his aides-de-camp¹ escorted the body to its last resting-place in the family vault of the Somersets at Badminton. For his war services Nigel Kingscote, who had been gazetted Brevet-Major whilst in the Crimea, on December 12, 1854, was given the brevet rank of Lieutenant-Colonel in the Army, was made a Companion of the Bath, and received the Crimean Medal, with four clasps (Alma, Balaclava, Inkerman, and Sebastopol), as well as the Turkish Medal.

On February 5, 1856, Colonel Kingscote married as his second wife Lady Emily Marie Curzon, third daughter of the first Earl Howe, and set up an establishment at 34 Charles Street, Berkeley Square, where he continued to reside for over forty years, removing in 1897 to 19 South Audley Street. He sold out of the Scots Fusilier Guards in 1856, and thereafter his only association with the Army was as Honorary Colonel of the (recently disbanded) North Gloucester Militia, a position in which he succeeded his father in 1862. He lived for a number of years the ordinary life of a country gentleman with a town residence and a seat in Parliament: for in July, 1852, he had been elected as a Liberal to represent the Western Division of Gloucestershire, and retained the seat for thirty-three years. On the death of his father on December 19, 1861, he came into possession of the estate at Kingscote, and kept up the family traditions as a squire, stock-breeder, and a follower of the hounds.

In Parliament he was one of the silent members, more common then than now; and the only subject on which he is remembered to have taken a part of any prominence was that of the Abolition of Purchase in the Army, in which his views were opposed to the Liberal party, to which he then belonged. He was, however, regarded as a useful practical member, especially in all matters relating to agriculture. He held his seat for West Gloucestershire without a contest from 1852 (when as a Free Trader he defeated a Protectionist) until 1868, and he was practically unopposed then and later, for although the Liberals won, lost, and regained the second seat, it was an understanding

¹ His four aides-de-camp were (1) Lieut.-Col. Lord Burghersh, (2) Lieut.-Col. Poulet G. H. Somerset, (3) Brevet-Major Kingscote, (4) Capt. the Hon. Leicester Curzon. The senior, Lord Burghersh, subsequently twelfth Earl of Westmorland, married on July 16, 1857, Lady Adelaide Curzon, elder sister of Lady Emily Kingscote, *née* Curzon. The junior was Lady Emily's youngest brother, who subsequently took the name of Smyth on marrying an heiress of that name, and died in 1891 as Sir Leicester Smyth, K.C.B., K.C.M.G.

on both sides that only that seat should be contested, and that Colonel Kingscote, whilst having the Liberal vote, should receive enough Conservative votes to ensure his election. In the last Parliament in which he sat (1880-5) he had as colleague Lord Moreton, son of his old and attached friend, Earl Ducie. In March, 1885, Colonel Kingscote received from Mr. Gladstone the offer of a Commissionership of Woods and Forests, and his acceptance of this Civil Service appointment brought his Parliamentary career to a close.

The qualities that were afterwards so generally recognised in Colonel Kingscote had obviously attracted the notice of the powers that then were so early as June 28, 1859, when he was appointed on the formation of Lord Palmerston's Government to the post of Parliamentary Groom-in-Waiting to Queen Victoria. He retained this appointment during Lord Russell's short Government of 1865-6, but retired when that Ministry fell in July, 1866.

Meanwhile, in May, 1864, he had been appointed, in succession to Colonel Thomas, to the post of Superintendent of the Prince of Wales's Stables, a position which involved practically daily attendance at Marlborough House, and the general supervision of the men, horses, and carriages in this department of the Heir-Apparent's household. Memories of Colonel Kingscote's punctilious discharge of his duties, and of the respect and affection that he inspired, remain to this day in the staff serving under him in the Royal stables.

It was in this way that commenced the long and intimate association with his Royal master and mistress which lasted forty-four years, and was only terminated by Sir Nigel's death. On April 9, 1867, he received the additional (honorary) appointment of Extra Equerry to the Prince of Wales, which he retained until the beginning of the present reign, when he was made Extra Equerry to the King. His wife, Lady Emily Kingscote, who had been appointed in July, 1872, Lady of the Bedchamber to the Princess of Wales, was at the same time made Bedchamber Woman to Queen Alexandra, a position which she resigned in June, 1906, in consequence of failing health.

Mr. T. H. S. Escott says in his brightly written *King Edward VII. and his Court* (1903) :—

"The Court of the Seventh Edward is above all things representative. The first principle expressed in its composition is, as befits a monarchical and aristocratic country, that of antiquity of family descent. Wessex, richly endowed as it is in that respect, possesses few stocks so ancient as the Kingscotes, of Wotton-under-Edge. Sir Nigel Kingscote, the Palace Paymaster, discharges one of his duties by reminding critics of the new *régime* that the most cosmopolitan sovereign and court ever known in this nation is also one of the most conservative. A Gloucestershire squire of many acres and old descent, Sir Nigel Kingscote has appeared as the one repre-

sentative near the throne of the country gentleman who, till the eve of the Victorian age, was an English power only second to the Sovereign or his great territorial nobles (pp. 34-6 and 275).

The paid post of Superintendent of the Stables at Marlborough House was relinquished by Sir Nigel in 1885, when he took up his duties as one of the Commissioners of Woods and Forests. As in all his other appointments, he brought to this new work a diligent and punctual discharge of duty, and won golden opinions from the tenants of the Royal estates, which it was his function to control and inspect. On July 9, 1886, he was also made a member of the Council of the Prince of Wales, and in 1888 he became Receiver-General of the Duchy of Cornwall, two posts which he retained to his death.

After ten years' service as Commissioner of Woods and Forests, Sir Nigel, who on July 2, 1889, had been made K.C.B. (Civil), reached the age—sixty-five—at which, under the Treasury Regulations, civil servants are called upon to retire. He retired from his Commissionership on March 3, 1895 (exactly ten years after his appointment), on a small pension, and for some years held no public office, though his services were speedily secured by Lord Cawdor (then Chairman of the Great Western Railway) as a Director of that Company. Shortly after his present Majesty ascended the throne, however, the appointment of Paymaster-General of the Household fell vacant, and to this post the King delightedly appointed his old friend and faithful servant. For the seven years before his death, therefore, Sir Nigel was in daily attendance at his little office in Stable Yard, St. James's Palace, where I often went to see him to discuss the difficult problems which the Royal Agricultural Society was then attempting to solve. On November 9, 1902, the King further showed his regard for Sir Nigel by conferring upon him the distinction of Knight Grand Cross of the Royal Victorian Order.

So much for Sir Nigel's official appointments at various periods of his long and useful life. But the careful and punctual discharge of his obligatory duties by no means exhausted his activities. He was much in request as a member of the governing bodies of a great many institutions connected with agriculture, and contrived by an orderly management of his time and thoughts, and an exemplary punctuality in all his engagements, to give due attention to each and all.

First and foremost in the estimation of most readers of these pages are his splendid services to the Royal Agricultural Society. His father became a member of the English Agricultural Society (as it was called before it got its Charter)

in 1839, and Sir Nigel once told me that he had been taken by his parent to witness the Royal Show held at Bristol in 1842—when, therefore, he was a boy of twelve. Colonel Kingscote himself was elected a member of the Society on April 5, 1854, on the nomination of Mr. Raymond Barker, then Chairman of the Finance Committee. He was elected a member of the Council on July 1, 1863, on the motion of the Hon. William Cavendish, M.P., seconded by Major-General Hood (afterwards Lords Chesham and Bridport). He joined the Finance Committee at the beginning of 1867, and when the late Lord Bridport became President in 1874-5, Sir Nigel succeeded him as Chairman of the Finance Committee, a position which he held until the end of 1905, except during the year (1877-8) of his own Presidency of the Society, when the Show of 1878 was being held (for the second time) at Bristol, in his own district.

Sir Nigel's letter of August, 1905, to the then President, announcing his intention not to seek re-election at the end of that year as Chairman of the enlarged Finance Committee, is characteristic. He said that it was known to Mr. Cornwallis and others of his old colleagues that he had for some time been anxious to be relieved from the Chairmanship of the Committee, but was unwilling to retire whilst the Society was in trouble, lest it might be thought that he was shirking duty. But he thought that after thirty years of Chairmanship, he might not unreasonably ask that at his time of life (he was then seventy-five) and at the beginning of a new era of management, he might be excused from further service as Chairman. He remained on the Council, however, until November in the following year, when he formally resigned the position of trustee, to which he had been appointed on July 1, 1874, and thus ceased to be a member of the governing body. At their meeting held on November 7, 1906, the Council passed, on the motion of Mr. Cornwallis, seconded by H.R.H. Prince Christian, the following resolution:—

“The Council desire to record on their minutes the great regret with which they learn that Sir Nigel Kingscote is compelled by ill-health to retire from the deliberations of the Council. Since his election to the Council in 1863, he has served as President of the Society in 1877-8, as Chairman of the Finance Committee from 1875, and Chairman of the House Committee from the same date. He frequently acted as Steward at the Annual Shows, and has been a Trustee of the Society from 1874. In these and other offices, and on all occasions, his energy, tact, and earnestness have been of inestimable value to the Society, while his courtesy and kindness have endeared him in a special degree to all his colleagues.”

In an unofficial capacity as Governor of the Society, Sir Nigel attended however several subsequent meetings of the

Council, when matters relating to the forthcoming Show at Gloucester in 1909 were under discussion, his last appearance being on July 29, 1908.

A pleasing incident in connection with Sir Nigel's association with the Royal Agricultural Society was the honorary degree of Doctor of Laws which he received from the University of Cambridge when the Society visited that town for the second time in June, 1894. The late Duke of Devonshire was in that year President of the Society, and as Chancellor of the University he personally conferred upon some of his colleagues on the Council (H.R.H. the Duke of York, the Duke of Richmond and Gordon, Earl Cathcart, Sir John Thorold, Bart., Sir Nigel Kingscote, and Mr. Albert Pell) the titular degree of LL.D. In introducing to the Chancellor Sir Nigel Kingscote, the Public Orator of the University made a Latin speech¹ in which he spoke of Sir Nigel's services in war and peace, of his having done admirable service in the customary business of the Royal Agricultural Society, and of his being one whom Ennius would have described as "*egregio cordatus homo*"—a man of excellent heart.

It would be impossible in this place to recount in detail the services rendered by Sir Nigel to the Society during the forty years that he was on the Council. During the whole of the period (18½ years) that I served under him he was generally recognised as a sort of permanent Chairman of the Council, to whom all the officials of the Society—Presidents, Honorary Directors, Chairmen of other Committees, and Secretary—took their difficulties for solution. He had a kind of instinct for what was right to be done, and one felt a moral safety in following his advice.

In addition to his Chairmanship of the Finance Committee, he was for a long series of years Chairman of the House Committee, and an active member of the Veterinary and Selection Committees. He was a Trustee of Harewood House, a Trustee of the Queen Victoria Gifts Fund, raised in 1897 in celebration of the Diamond Jubilee, Chairman of the Committee for Hanover Square Garden, and of many special Committees both of the Society itself or of organisations in which it was interested. He did not profess to be an orator, and indeed, when upon his legs, suffered somewhat in the exposition of his views from a difficulty in the choice of words. But his meaning was there all the same; and as the Council was always a little restive at lengthy speeches, he no doubt achieved his result as well as, if not better than, if his remarks in debate had been more fluent than they actually were.

¹ For the full text of this Latin oration, see R.A.S.E. Journal for 1894, pp. 430 and 431

Sir Nigel was a great stickler for order in debate, and the intrusion in discussions of matters extraneous to the particular issue was to him a source of discomfort and restlessness. Direct and precise himself, he expected others more diffuse and loquacious than he was to keep to the point—which is always the difficulty in all deliberative assemblies. It would be unjust to say of a man so amiable in character that he glowered at opponents and interrupters ; but having a clear view himself of what he felt to be right, he could not enter sympathetically into opposite opinions expressed by others—probably with less opportunities for a correct judgment than he had. Yet always, even under the most trying conditions, he maintained his courtesy of manner, and never spoke with heat or recrimination.

I recall especially one illustration of Sir Nigel's simple and direct methods of thought and action. As it happened nearly twenty years ago, and all the leading actors in the matter are either dead or have retired from the service of the Society, there can be no harm in mentioning it. There was a particular matter in which the Finance Committee took up a strong line, but which was strenuously objected to by an individual Member of the Council with independent views, and a great facility and clearness in expressing them. After some preliminary skirmishes and a long set debate, this Member of the Council was handsomely beaten ; but he persevered in his opposition, taking advantage of various opportunities which occurred during the next few months to attempt to upset the previous decision by giving notice of amendments.

In the hope of averting another complicated debate on this vexed question, efforts were made by correspondence to effect a compromise by meeting the objector half way. At one time there seemed hope of the negotiations being successful, but he finally adhered to his own views. In order that the Council might have the opportunity of expressing its opinion on the suggested compromise, notice of a further amendment embodying it was put on the agenda paper by another Member friendly to the Finance Committee. The day arrived for the decision. The Finance Committee held a preliminary meeting before the Council sat, when it was agreed that a proposed alteration in the By-laws, of which notice had already been given by Sir Nigel, should be formally moved in its original form, but that the discussion should proceed on the two amendments. If the Council thought well of the new principle embodied in these amendments, then support would be given by the Committee to the proposal contained in the compromise which the objector had refused to accept. But on his way upstairs to the Council Chamber, Sir Nigel met the

Duke of Richmond and Gordon, and found in him an ardent sympathiser in the trouble which defence of the Finance Committee's position had involved to Sir Nigel for nine or ten months past. Emboldened by His Grace's support of the original proposal, Sir Nigel put away from him as irksome any suggestion of a middle course. To my amazement, he got up and made a fighting speech, and being supported strenuously by the Duke, the original resolution was carried by a three-fourths majority, and has never since been questioned.

Another institution of public usefulness in which Sir Nigel took a particular interest was the Royal Veterinary College in College Street, Camden Town, of which he became a Governor in 1873. He became a Vice-President in 1878, and in 1887, on the retirement of the late Mr. C. N. Newdegate, he was elected Chairman of the Governors and a Trustee of the College. He took an active part in obtaining for the College the charter of incorporation granted to it in 1875, and it was largely owing to his exertions and influence that in 1905 the Government, through the Board of Agriculture and Fisheries, made an annual grant of 800*l.* in aid of the College funds. The system of education pursued at the College has been very considerably extended and improved since the date of Sir Nigel's election as a Governor. Every step in advance had his cordial approval and assistance, even when through the raising the standard of the Matriculation examination the number of students entering the College was reduced.

In 1891, during Sir Nigel's Chairmanship, the centenary of the foundation of the College took place. On that occasion the College was visited by His Majesty the King, then Prince of Wales, who was accompanied by the President of the College, His late Royal Highness the Duke of Cambridge. Under Sir Nigel's guidance a thorough inspection was made of the College premises, and the opportunity was taken of formally opening a new range of buildings which had been erected at a cost of some 10,000*l.*, and which included a new lecture theatre, a museum, a library and reading room for the students, and other class rooms, &c. In the erection of these buildings Sir Nigel had taken a very active part, and it was largely due to his exertions that the opening ceremony was brought to so successful an issue.

In 1903 the Governors of the College resolved that the University of London be approached with the request that the University would institute a degree in veterinary science. This was a subject in which Sir Nigel took the warmest interest and which he furthered by every means in his power. A degree in veterinary science has now been instituted by the University, for which several students of the College are

candidates, the more advanced courses of instruction required of these candidates being given in the College. Indeed, in season and out of season, Sir Nigel was never tired of working in the College interest, and the number of his friends and acquaintances that he induced to become supporters of the institution may, the Secretary says, "be reckoned by scores if not by hundreds."

Sir Nigel took an active part in the formation of the Shorthorn Society of Great Britain and Ireland, established in July, 1874, to take over Coates' Herd Book.¹ He was indeed the first of the signatories to the articles of association, and the last survivor of them. He was for a long series of years Chairman of the General Purposes Committee of the Shorthorn Society, and served the office of President on two separate occasions (1879-80 and 1901-2).

Another Society in which Sir Nigel took a prominent part was the Hunters' Improvement Society, the establishment of which was the outcome of a meeting held at Tattersall's on November 5, 1884, to organise a Show for classes of thoroughbred stallions suitable for getting hunters and half-bred horses. In December, 1886, he was elected a Vice-President of the then newly formed Hunters' Improvement Society, and in June, 1887, was elected President, serving later for a second term in 1901. He acted as Chairman of a Special Committee which drew up, after much deliberation, the conditions for registering hunter stallions and mares. Though a great adherent of "blood" and the thoroughbred, he more than once acknowledged that the registration of stallions with a slight stain would be of value to breeders.

He was also on the governing bodies of the Smithfield Club (President in 1879 and 1903), Southdown Sheep Society (Vice-President since 1899, President in 1902), and the Kingscote Farmers' Club, a local institution of which he was for many years the President, and before which he not only read papers himself, but persuaded leading exponents of agricultural thought to do likewise.

Sir Nigel was a member of the Royal Commission on Agriculture of 1880, of which the late Duke of Richmond and Gordon was the Chairman, and also on the later Commission appointed in 1893, under the chairmanship of Mr. Shaw-Lefevre (now Lord Eversley), and performed useful service on both.

In his own county of Gloucestershire, Sir Nigel was for many years a leading figure. He was a Deputy Lieutenant for

¹ For an interesting sketch of the origin and growth of this publication see pp. 37-38 of Sir Nigel's article on "The Value of Pedigree," in the R.A.S.E. Journal for 1902.

the county, and a Justice of the Peace both for Gloucestershire and Wiltshire. He was one of the first Aldermen appointed in 1889 by the Gloucestershire County Council, a position he retained until his death, and for many years one of the Committee of Management of the Royal Agricultural College at Cirencester. Although in late years he had not been able to follow the hounds, he had a great reputation in the past amongst hunting men in the Badminton, the V.W.H., and Berkeley countries for being an especially straight and bold rider. His hunting career commenced when he was sixteen, and there are records in the Berkeley annals of brilliant gallops when he and others "went best." In the winter of 1861, when the then Duke of Beaufort had to winter abroad, the management of the Badminton pack was entrusted to Sir William Codrington and Colonel Kingscote.¹ When riding one of the Prince of Wales's horses whilst His Royal Highness was in Egypt, Colonel Kingscote broke his leg whilst out hunting; and he also broke some ribs in the field. Almost to the last he was fond of riding, and rarely missed his early morning canter in Hyde Park. In the grounds of Kingscote is what was once one of the finest race-courses in England, and the meetings there used to be called the Goodwood of the West. There was, however, no racing there in Sir Nigel's lifetime, as the course has not been used for that purpose since 1825. In a secluded dell in the park is pointed out a place where many prize fights were held in the palmy days of the ring. In his early days he was devoted to cricket, and was mainly instrumental in getting together an eleven to play the Free Foresters at Kingscote and in bringing a team to play the Zingari at Badminton.

Mention has been made on a previous page of Sir Nigel's having kept up, on succeeding in 1861 to the Kingscote property, the family traditions as a landlord of the old school, and as an enthusiastic breeder of pedigree live-stock. He took a very keen and practical interest in the management of his estate and liked to be kept duly informed of all that took place. He was a just and generous landlord, ever ready to help his tenants in all their difficulties. They never applied to him in vain for improvements to their holdings that appeared to him of practical value. He was perhaps happiest when walking or riding over his home farm and estate. He knew every man on it and took a personal interest in their welfare. He had not resided at Kingscote for the last twenty years, greatly to the regret of the neighbourhood, but he came down for a day or two every two months or so, and made a

¹ *The Eighth Duke of Beaufort and the Badminton Hunt*, by T. F. Dale, 1901, pp. 193, 223.

point of seeing his tenants and having a chat with them at least twice in the year.

He was extremely fond of his stud, herd and flock, and assisted in their management and breeding with his varied and practical knowledge. In an interesting and useful paper which he contributed to this Journal in 1902¹ on "The Value of Pedigree," he spoke of himself as having then for thirty years bred "pure" Suffolk horses, "pure" Shorthorn cattle, "pure" Southdown sheep, and "pure" Berkshire pigs. In all this he was only following in his father's footsteps. Shortly after Mr. Thomas Kingscote came into possession of the property, in 1840, he laid the foundation of the herd of cattle of which his son was so justly proud, and which, as many will hear with regret, is now to be dispersed under the hammer next April.

It is unusual to find the clean-limbed Suffolk horses in the West Country, but they were and are bred not only at Kingscote but also at Buckland, the family seat of the Throckmortons near Faringdon. At Kingscote the Suffolks did all the work of the home farm and estate. Sir Nigel always went to East Anglia when he required a fresh sire, and occasionally bought a mare or two to introduce fresh blood. He liked best a short-legged compact animal that could move sharply in its walk, and objected to a horse that had too much top for its bone. When he lived at Kingscote he put a Suffolk mare to a thoroughbred stallion, and was successful in breeding good hunters from this cross. He personally rode these animals to hounds as four-year-olds, and they made high prices when sold at the end of the season, two of this mare's produce realising 175 and 155 guineas respectively.

The herd of Shorthorn cattle at Kingscote dates back to about 1845, and was one of the earliest as well as one of the most famous in the West Country. In founding it Mr. Thomas Kingscote had the highly competent advice of his friend the second Earl of Ducie, the owner of the famous Tortworth herd. The earliest sires at Kingscote were from Tortworth (Fourth Duke of York, Duke of Gloucester, &c.), and others came from the well-known Wetherby herd in Yorkshire. A succession of high-class Bates "Duchess" sires rendered the herd full of the fashionable blood of the day.

About ten years after he had succeeded to the property, Sir Nigel took the bold course, under the advice of the late John Thornton, of importing from Canada a young bull, "Duke of Hillhurst," from the Hon. M. H. Cochrane, a collector of high-class Bates families. The price given for "Duke of Hillhurst" was a high one: so much so that he was wittily called at the time the "golden calf." But as Sir Nigel admitted

¹ R.A.S.E. Journal, Vol. for 1902, pp. 31-48.

at the complimentary dinner given, under his chairmanship, to Mr. Thornton on June 27, 1905, this bull "turned out very well"; in other words, he became such a noted sire that his purchase was an excellent investment. At the Dunmore sale on August 25, 1875, "Duke of Connaught," a son of "Duke of Hillhurst," was sold to Lord Fitzhardinge for 4,500 guineas for the Berkeley herd, and a grand-daughter of "Duke of Hillhurst" realised 1,100 guineas at Sir Nigel's own sale in 1879, also going to Berkeley Castle. At this Kingscote sale in 1879 forty-eight animals were sold at an average of 99*l.* 5*s.* 6*d.* This had been exceeded at a previous sale in 1875 (at the time of what may be called the Shorthorn mania), when forty Kingscote animals realised an average of 179*l.* 4*s.* 8*d.*, and a Wild Eyes heifer had been sold to Mr. W. Angerstein for 760 guineas. There were subsequent sales at Kingscote in 1882 and 1889, the whole herd being dispersed on the latter occasion with the exception of the heifer calves, which became the nucleus of the existing herd. Since 1889 the Kingscote animals have been disposed of at joint sales with neighbouring breeders, and it was at the last of these, held on September 11, 1908, that Sir Nigel caught the chill which was the beginning of his fatal illness.

Of all the animals bred at Kingscote Sir Nigel was probably fondest of, and took most interest in, his Shorthorns. He personally kept a register of all the births, sales, &c., that took place in the herd. He started with Bates bred cattle, and never lost his love for this line of breeding. When it became necessary to introduce fresh blood, owing to the lack of stamina developed in the Bates cattle through in-breeding, he did so very warily, and objected to introduce a violent outcross. Instead, he selected a sire bred from a Bates cow and got by a bull of some other good line of breeding. He thus kept intact the Bates style and character, which he loved so much. His ideal was to breed cows that pay their way at the pail and feed quickly for the butcher: in fact the combination milk and beef animal. As to management, he liked the herd to be dealt with naturally. The heifers lay out the whole year round after they had passed the yearling stage. Even the milking cows lay out night and day in the winter when weather would permit, and this on a Cotswold Hill farm, 750 to 800 feet above sea level.

The Southdown flock of sheep at Kingscote dates back to 1842, when seventy ewes were obtained for Mr. Thomas Kingscote from the Duke of Richmond's flock at Goodwood; and nothing but pure Southdown blood has been imported since. In one season in the fifties, Mr. Kingscote hired a ram of the late Mr. Jonas Webb for 90 guineas. Since 1842 ewes

have been added to the flock from time to time, purchased at Goodwood, Buckland, Crichel, and Cirencester. Sir Nigel was extremely fond of his flock of Southdowns, and liked to see them uniform in type and colour. He introduced fresh blood each season by the purchase of sires from well-known flocks, Goodwood and Babraham being frequently drawn upon for this purpose. He very seldom purchased ewes, as he thought he could more easily keep an uniform type by breeding from ewes bred at home.

It is some years since pure bred Berkshire pigs were kept at Kingscote. Sir Nigel was very much grieved when, some fifteen years ago, swine-fever cleared out his old herd, which was full of Kingscote blood. He started another herd, which again was cleared out in the same manner. The origin of the disease was never traced in either case. After the second visitation only cross-bred pigs were kept. Even in the poultry yard Sir Nigel liked to see pure stock, and he used to breed the black-breasted Old English Red Game, of which some years ago he had a number of very good specimens.

In personal appearance, Sir Nigel was tall, slim, and upright, with a striking aristocratic face, and the aquiline nose of the Somersets which he inherited from his mother. His courteous and distinguished bearing, and his kindly and tactful manners of the old school, made him a great favourite in social circles, and he was wonderfully popular wherever he went. He was a familiar figure at Brooks' Club, and was equally well known at the interesting but now practically defunct Cosmopolitan Club, which from about 1858 to the end of 1902 had its meetings twice a week at 30 Charles Street, Berkeley Square. Sir Algernon West, than whom no better arbiter of a man's social qualities exists, and who has the tenderest memories of Sir Nigel, wrote an entertaining account of the Cosmopolitan Club in the *Cornhill Magazine* for August, 1903.

He tells me that when a vacancy occurred in the office of Secretary, the thoughts of every member turned with one accord to Sir Nigel, and that he "brought to bear in the performance of his duties a charm of manner, a personal popularity, and a perennial youth which reflected themselves upon every member of the club." Lord Welby, another staunch "Cosmopolitan," echoes these sentiments, and is an equally ardent admirer of Sir Nigel, with whom he was also brought into close association at the periodical gatherings of the Society of Dilettanti (established in 1734), to which they both belonged. If it were necessary, which it is not, the

sentiments of these two old friends could be supplemented by the testimony of many men in all walks of life, from the highest to the lowest, to the charm and influence of Sir Nigel's simple and high-minded character.

Almost up to the last, Sir Nigel retained the smartness and alert bearing that becomes a military man, and he carried his years so well that it was difficult to think of him as almost an octogenarian. Of late, his friends began to detect failure of some of his powers, and he had to recognise the necessity of husbanding his strength. It had been his custom for many years past to pay an autumn visit of some duration to his friend, Mrs. Montefiore, at Worth Park, near Crawley, Sussex. In the second week of September of this year he went to Worth Park with Lady Emily. During his visit he left to attend a sale held at Badminton, on September 11, of some of his own (with other) Shorthorns, and presided—in the absence of the Duke of Beaufort—at the luncheon. He then returned to Worth Park, and the day following had a heart seizure, which proved fatal at 8 a.m. on Tuesday, September 22. His body was brought to London, and thence to Kingscote, where he was buried in the family vault in the churchyard on Friday, September 25.

A memorial service held in London at the same time at Christ Church, Down Street (of which he had been for several years churchwarden), was very largely attended by old friends, official and private, as well as by representatives of the King, the Queen, the Prince of Wales, and other members of the Royal Family, various Government Departments, and the many institutions with which he was associated during his long and useful life.

As I finish this brief and imperfect record of a noble and disinterested career on the tercentenary of the birth of John Milton, I may fitly apply to Sir Nigel the fine lines of that poet :

“ When Faith and Love, which parted from thee never,
Had ripened thy just soul to dwell with God,
Meekly thou didst resign this earthy load
Of death, called life, which us from life doth sever.
Thy works, thy alms, and all thy good endeavour
Stayed not behind nor in the grave were trod.”

ERNEST CLARKE.

ROTATIONS.

THE practice of some primitive system or other of rotating crops has apparently been followed from the very earliest times, and men have adopted the principle from their first attempts at growing cultivated crops. In Bible history, which is our oldest authentic record, we find the idea inculcated in the Mosaic laws, and what was practically a crude seven-years' rotation was laid down as one of the rules of that dispensation.

Coming down to classical times we find the idea enlarged on by the Roman and other writers—Virgil, Columella, Ovid, and several others giving instructions and references regarding the practice very frequently. Later on, in Saxon times, we meet with a sort of three-course shift—two corn crops and a bare fallow—practised on the small patches of arable land near the village settlements or homesteads in the days when little or nothing was known about manuring, when fallow crops were unknown, and only the natural fertility of the soil was depended on.

The practical foundation of the system of rotating crops is the experience of generations of farmers including those of the present day, that if the same crop is repeated on the same field for even two years in succession the yield may deteriorate independently of season, cultivation, or any other circumstance, while if the repetition is continued the resultant crops, with some species of plants, will become worse and worse. *Per contra*, it has been found that if the successive crops are different the yield is better, and that, in the case of certain plants, the greater the number of years that is allowed to elapse before growing the same crop a second time on a given field the better are the results. This was the broad outstanding fact known to farmers since the earliest times from practical experience; but it is only within the last century or so that we began to inquire into the reason why of this state of matters, and to understand when and how rotations might be followed, or modified, or departed from altogether, as circumstances allowed.

The old restrictions in farm leases binding a tenant to a certain course of cropping and a certain method of using the crop were founded on the idea that a farm must be self-supporting manurially, and thus all fodder and roots were to be consumed at home to make manure for future crops. The discovery of so many varied forms of artificial manures and

the manufacture and use of various "cakes" has, however, altered all that. The Agricultural Holdings Act, which comes into force on January 1, 1909, practically legalises freedom of cropping. So long as the farm is kept clean and well manured this is as it should be. There can be no objection of course to insisting on a farm being left in a regular rotation at the end of a tenancy. A new tenant coming in to a farm may not want to crop or farm generally as his predecessor did, and therefore it is but right and fair the land should be left to him on some recognised system suitable to the district so that he can start off knowing that crops have not been unduly repeated on individual fields, and then he can modify the rotation to suit himself. Even under such circumstances—provided the land is clean and in good heart—a hard and fast rule need not be laid down.

Crops are grown either to sell or to feed stock, and therefore in fixing on those to be cultivated a farmer naturally tries to stick to those which give the best returns. The land, however, must be kept clean and in good manurial condition, and therefore cleaning and renovating crops must be alternated with those which bring in cash. But of course these latter must be more than self-sustaining also, and thus roots, beans, clover, and plants like these, which have a direct value in addition to improving the soil, are preferred. A cleaning and renovating "shift" in the form of a bare fallow is the least desirable from this point of view, but on the other hand it thoroughly cleans the soil and allows some of the elements of fertility to accumulate. Very often, indeed, we find the fallow work comes in very handy at a slack time, and therefore the labour spent on the same may not really be a very great outlay, though charged in a valuation as "tillages."

In any system of rotation or of changing crops in any form the preserving and improving of the fertility of the soil ought to be kept in view. It is always possible in most districts in this country, of course, to keep the fertility right by the extraneous addition of manure in some form or another, but we know enough now about the growth of the various crops to be able to follow a sequence that will, to a certain extent at least, replenish by the residue left by some of them. Thus corn, potatoes, and roots are exhausting crops where sold or at least, removed from the fields where they grew; but clover, beans, peas, and indeed all leguminous plants leave a nitrogenous residue behind in their roots. And thus these, while yielding a saleable crop, will, if supplied with the cheap mineral manures, at the same time replenish the soil. It is therefore desirable to alternate these and other replenishing crops with those of an exhausting nature as much as possible.

Indirectly, also, the rotation adopted has an influence on the tilth or friability of the soil. Though it is possible¹ to grow one kind of crop, like corn, continuously, where the soil only requires to be turned over with an ordinary furrow slice, the texture and tilthiness of the land will deteriorate year by year, and even extra cultivation in the shape of hoeing, scarifying, &c., may not be sufficient. On the other hand, the introduction of a fallow crop gives an opportunity for deep-ploughing, thorough exposure to the frost and weather during winter, and a continuous series of cultivations while the crop is growing. By this means the tilth of the soil is improved for several years.

That different kinds of cultivation—as for example deep *versus* shallow ploughing—are provided for the different crops is one of the indirect results of rotating crops—we are rotating the different varieties of cultivation at the same time.

It must be noted that there are various ways of looking at a rotation or what constitutes a rotation. The outstanding rule being that no crop should be followed by the same crop the next year, we reduce the whole matter to a two-years' rotation thus, as far as ordinary farming is concerned—corn ; other crop ; corn ; other crop ; and so on indefinitely. The corn (of whatever kind) is a more or less “scourging” crop, and we alternate it with a renovating or cleaning crop in the shape of bare fallow, roots, beans, clover, or grass, according to circumstances. Thus in the great majority of cases we are only rotating corn with something else, although the rotation is named according to the number of years intervening between the repetition of these intermediate crops.

Apart altogether from a regular rotation of crops, that is, from a hard and fast cycle which repeats itself at an interval of so many years, there are many reasons why crops should be changed as to their sites from year to year, and we may classify and examine these in some detail. They may be divided into two groups—those due to the soil itself (A), and those due to circumstances outside the soil (B). We may take the former first in order and see what rotations do.

A.

1. *Admit of better cleaning of the land.*

This is probably the oldest reason for changing a crop on the soil. In ancient times in our own country the “infields,” that is the cultivated fields near the homestead in contradistinction to the grazing “outfields” at a distance, were

¹ Mr. Prout's system at Sawbridgeworth, Herts, is very nearly continuous corn, though an occasional fallow or clover crop is taken.—Editor.

worked on a sort of three-course shift, viz., two corn crops and a bare fallow in constant succession. Continuous corn-growing fouled the land, while the yield became more and more stunted, and thus the introduction of the bare fallow as a means of cleaning and incidentally renovating the fertility was introduced.

2. Are economical of food in soil as well as of manures.

Sir Humphry Davy was one of the first in this country to inquire into the chemical composition of farm crops, and in later years the two veteran experimenters of Rothamsted—Sir John Lawes and Sir Joseph Henry Gilbert—carried similar investigations to a fuller issue, and we nowadays know that every crop takes from the soil so many pounds per acre of nitrogen, phosphoric acid, potash, lime, and a lot of other substances; and further, that different plants require these in very varying quantities. We therefore economise manure by varying the crops grown, because, if one kind is repeated on the same land year after year, one or more of the special chemical bodies may have to be supplied in larger quantities than is necessary under a more general system of farming. If this is not done the crop grown on the same soil year after year may become stunted, having exhausted its own special form of available food, or at any rate greatly reduced the supply, by its incessant demands on that particular area.

A dressing of manure of any kind put on a crop is generally compounded to specially suit that crop so far as we know how to do so. For instance, we put superphosphate or some other phosphate manure on turnips, lime in some form or another on clover and beans, and so on, but there is in the case of many fertilisers an “unexhausted residue” left for the next crop, while in the case of dung or mixed artificials some ingredient would not be used up so fully as the others. A change to another crop will equalise matters, and thus the whole of the fertility becomes utilised more evenly; the manures as well as the “inherent fertility” of the soil.

3. Alternate deep and shallow-rooted crops.

Our different crops vary very much as to the depth to which their roots penetrate, and the layer of soil in which each feeds most largely. Thus wheat and barley are good examples of the difference between two corn crops; wheat is deep-rooted, and barley very shallow-rooted. This explains why they go well together in a rotation, and why in some rotations barley will grow well immediately after wheat. They draw their nutriment from different layers, and thus

while the surface soil may be drawn on by the one crop the lower layer is accumulating a supply against the next crop, and *vice versa*.

4. *Allow one crop to prepare the soil for another.*

An example will best explain this. Clover is a crop which finds its own nitrogen and takes little of it out of the soil—indeed increases the amount there through the action of the nitrogen-fixing “bacteria” in the tubercles on the roots. On the other hand, clover requires mineral manures. Wheat requires plenty of nitrogen but is much more independent of mineral manures than is clover. Hence clover is a good preparation for wheat.

5. *Check influence of insect and fungous pests.*

When the same crop is repeatedly grown on the same field there is liable to be a gathering strength from year to year of the insects and fungous pests which infect that crop. One of the most prominent illustrations of this is in the case of potato growing. The residue left in the land in the shape of haulm and tubers may be the means of continuing or even increasing the diseases from which this crop suffers. Thus potatoes after potatoes are more liable to be diseased than when they are not grown for several years afterwards, and when they are taken on absolutely fresh ground the percentage of disease is still smaller. Potatoes are often grown year after year in a garden, but then the early raising and use reduce the harm done by an attack of disease very much. Finger-and-toe in turnips is another illustration of the necessity of a change to reduce the chance of an attack from the disease.

With insects a case in point is that of wireworm, where a bare fallow will help to eradicate the “worms.” These usually live several years in the larva stage, so that the stoppage of the food supply compels them to go into the chrysalis stage and thus cease further depredations, whereas the repetition of a crop—especially a corn crop—would perpetuate the trouble.

Clover “sickness” again is another illustration, as at least one form of it is due to fungoid agency, and leaving as many years as possible between successive crops of the same is beneficial.

6. *Influenced by soil texture.*

The texture of the soil has much to do, of course, with influencing the nature of the crops grown, but this takes effect often without altering the regularity of a rotation. For instance, on a heavy soil where root-growing would be expensive and precarious it is common to substitute a bare fallow; it is a fallow in both cases, and therefore the circle of

cropping remains the same. Theoretically, of course, a light land rotation would not suit heavy land, but if both soils occur in one field it is probable that one rotation is practised on both.

The second group of influences at work which control or affect the particular rotation of cropping adopted on a particular farm or in a district are those which are partly at least outside the actual soil itself, and are more or less beyond the control of the farmer.

B.

1. *Influence of climate.*

It is manifest that the particular crops grown on a given farm depend partly on the rainfall of the district, the position north or south, the position high or low, and this in turn will influence the scheme of cropping. In the northern and western districts the rainfall is heavy; in the eastern and southern country it is light, with, as we shall see, a corresponding influence on the cropping and rotations. The most noticeable fact is that in the northern counties of England grass for grazing is left down for two or three years—a system that is almost universal in Scotland. The writer was accustomed to this in his youth, and on removal to Essex practised it for many years, but eventually abandoned it as unsuitable to the dry climate of eastern England. The “grass” of course was a mixture of suitable clovers and grasses. The influence of the rainfall in this direction suggested the idea that in the wetter west of England there might be similar cropping to suit, and an examination of the returns from correspondents residing in Devon, Somerset, &c., reveals the fact that in a large number of districts the rotations preferred are those with several years down in “seeds.” *Per contra*, throughout the drier Midlands and south-eastern parts of England the “seeds” are reduced to one year (often clover alone) or left out altogether; thus the arable land is always under arable crops, while the grass land is more or less permanent grass—sometimes prehistoric old meadows. It might be assumed that this state of matters was entirely due to the lesser rainfall reducing the growth of the grass; but it is not always so, for there is no difficulty in some cases in getting a satisfactory crop to grow. The chief trouble in certain cases comes after the grass is broken up for subsequent cropping. The tough furrow-slices when turned over just lie like pieces of dry turf, and the result is that the corn (generally oats) never gets a proper root hold with the open spaces below, while the wireworms bred in the grass layer play havoc with the young plants. The consequence of all this is that the soil requires two years of cultivation to get it back into a proper state of tilth, and thus

experience has shown that the land had always be better kept in tilth for cropping purposes, and the long "layer" kept out of the rotation.

Now, where there is a sufficiency of rainfall, the furrow-slice cut out of a grass field is better washed down in winter time, the extra moisture supplies the roots of the corn in summer, and it can get over the trouble of hollow ground and wireworm, and thus all the benefits of a "rest" from growing grass are obtained where there is heavier rainfall without any drawbacks.

2. Arrangement of fields.

There is another circumstance which indirectly, but nevertheless very greatly, influences the rotation adopted on a particular farm. This is the size, number, and position of the fields on a farm. It is obvious that whatever scheme of cropping is adopted it is a convenience, and indeed a necessity, to fit it into the fields of the farm. If there are four fields then a four-course shift is the most suitable; if seven fields then a seven-course shift, and so on. A little figuring will show that you cannot fit four courses on to six fields or five courses on to seven without getting into a muddle as to the succession after two or three years. It is, of course, quite possible to alter the fields to suit a different scheme, but this is not a tenant's job, while on most farms the fields have been arranged as they now are for at least half a century, and it is easier to alter a rotation to suit the fields than to alter the fields to suit a rotation. Further, the dividing up of a field into patches of different kinds of crop is not methodical, though it is often done, and therefore the working of a rotation which adapts itself to the fields as they already exist on a farm is much the best, and this is often an important factor in deciding the matter.

The opposite process—making the fields to suit the rotation—was largely carried out, however, some two generations ago now. When the era of making large farms set in, an important part of the process was the rooting up of thousands of miles of fences which divided the small fields from one another. Two or three intermediate fences were removed so as to make one large field out of several small ones, and only those fences were left which were suitable as boundary lines for large ones, but the new fields were planned out more or less to suit a scheme of cropping, and very often that scheme holds to the present day.

3. Distribution of labour.

Rotations fit in very well with dividing the work of the farm evenly over the year. In a new country like to that we

see on the wheat plains of the Far West, the growth of one kind of crop year after year means that there is a great burst of work at, say, two periods of the year, and then there is nothing to do in between. In our own country, where the cropping is more intensive, and we want to keep a gang of farm workers regularly employed all round the year, a divergence of cropping is necessary so that the work done in connection with one will dovetail in with the seasons and the work done with others. This of course does not necessarily imply a rotation of crops, but it enforces growing a variety of crops which suit a rotation.

4. Supply of labour.

Outside of the influence of soil and climate on the kinds of crops and the order of rotation, there is another factor to be taken into account. This is the supply of labour. The ordinary crops in the shape of corn, roots, hay, &c., can be handled by the regular staff of the farm, and the work belonging to these can be conveniently dovetailed in, the one with the other, round the different seasons. With such crops, however, as potatoes, green peas for picking, &c., &c., a great crowd of "casuals" or women and children are required for a few weeks at certain seasons of the year for harvesting purposes. If workers of this description cannot be procured, or if the horse labour on the farm is insufficient for this purpose, then it is obvious that these and similar crops cannot be grown, and therefore the rotation must be modified to leave them out accordingly. Often one hears a farmer explain, for instance, that his farm would suit potato growing or some other crop very well, but that he does not grow such because he has not a command of labour for the few critical days or weeks when it is needed, and the rotation has to be adjusted accordingly.

5. Varieties of crops required to suit markets.

As all kinds of crops are required to supply the markets as well as the demands of the stock on the farm, we have in this another reason which enforces the growing of different varieties. In addition to this, local markets may demand some special product or an extra quantity of some one of the ordinary crops, and it pays the local farmers to meet the demand. In seed-growing districts this is specially the case, and crops are grown for seed which are not met with in ordinary farming for this purpose at all. Corn, beans, potatoes, &c., have all of them their seed produced in the course of ordinary farming. Clover, turnips, mangolds, mustard, &c., only have their seed produced in certain favourable districts, and thus the system of crop growing has to be modified on

these farms to suit these special crops. The same principle applies as regards many local markets where there may be a good demand for one product like potatoes or hay, which the farmers lay themselves out to supply and adapt their cropping to suit accordingly.

6. *Rotation of live stock.*

Following on the changing of the crops there is a corresponding change of the live stock on the fields, and this is not only desirable but necessary. On pastures we do not always see this where there is a great extent per head, but we know that they get "tainted" from perpetual sheep-feeding, they get "sick" of horse-feeding, and so on, and the same thing applies to arable land where, say, sheep are folded, or live stock grazed on temporary pastures. Further, the droppings of the animals, especially from sheep folded on the land, are one of the important means of keeping up the fertility of the soil, and consequently feeding the live stock on different fields in succession is a necessity from this point of view. The rotation of the live stock, if possible, is just as necessary as that of the crops, and of course depends on that of the latter, and is important from a health point of view as well as from that of the use of the crops or the manuring of the land.

It is quite impossible to give a list of all the rotations that have been, or are, practised throughout the country, and a selection will be offered later on by way of illustration of the various systems in vogue. But we may remark that while the shortest rotation may be taken at two years, the longest one appears to be eight years—at least the writer has not come across one of greater length. Where the land is left down for an indefinite number of years in "seeds" or in lucerne, &c., the rotation cannot be defined, of course, and in the same way any rotation can be lengthened by leaving the grass alone.

It is not possible to plan an ideal rotation, or rather, we find that an ideal rotation would never fit in with all the manifold circumstances—such as soil, climate, labour, markets, &c.—which influence and control these matters. An American authority gives an ideal rotation for the United States as maize, potatoes, wheat, clover. The clover sod is manured heavily in preparation for the maize, and the two corn crops alternate with roots and clover. The objections to it from a British point of view is that the clover comes too often—as it is merely another version of the Norfolk four-course—and something else would have to be substituted every second series. This liability to fail is not confined to clover, and we are sometimes compelled to depart from a hard and fast rule

simply because the crop that suits a certain shift in a rotation has failed, is ploughed up, and something else is tried.

In the south of England and other of the more genial districts the question of introducing "catch crops" arises, whereby three crops are obtained in two years from time to time. Catch crops are for the most part beneficial to the land, they are examples of "intensive" farming, and enable a farmer to carry extra stock. On the other hand they more or less upset regular rotations, the Wiltshire system being the only one known to the writer where catch crops are regularly included in the same. Rape or mustard after potatoes, winter rye fed off in spring in time for sowing turnips, maize sown at midsummer after a half-fallow, are all examples of slipping in a forage crop between two other crops, but which are liable to upset methodical rotation, though beneficial and desirable otherwise.

For the purposes of this paper a large number of circulars were sent out by the Editing Committee to leading farmers in every county in England, asking them to specify the rotation each followed or which was common in their respective districts, to state the nature of their soil, and to give any other information on their system of farming they thought of value. Over one hundred gentlemen replied, and the present writer may here thank them for their courtesy in filling up the forms and giving many details of information.

In the preceding pages the writer has given a general sketch of the whole subject looked at from what might be called the theoretical aspect of the question, and now the returns obtained as to what are the actual practices followed up and down England may be discussed.

The great outstanding fact learnt from these circulars is the universality of the Norfolk or four-course shift. From the north to the south of England, and from east to west, this rotation was either used in its simplest form or else it was the basis of some modification in a majority of cases. Apart from this a study of many of the various other rotations known by specific names reveals the fact that these also are in many cases simply based on the four-course shift. In the northern counties the Berwick five-course predominated: corn, roots, corn, seeds, seeds. This, however, is just the four-course with an extra year "laid down"—a "mixture" of grass and clover for two years taking the place of pure clover for one year. Again, an eight-course shift reported from the Midlands proved, on examination, to be a double four-course with clover in one group and peas in the other.

Another point brought to the front by these returns is that rotations are independent of geological formations. As a

geologist I should be very pleased to receive information which would enable me to collate certain rotations of crops or systems of cropping to certain geological formations, but these seem to have far less influence than climate, latitude, altitude, markets, &c., &c. There is, of course, a difference or a suitability of rotations for light, medium, or heavy soils, but as we have examples of these irrespective of geological position I am not able to make out a geological system of rotating crops. Thus a rotation suitable to stiff land will suit that kind of soil whether it is derived from the London clay, the Oxford clay, Kimmeridge clay, &c., &c., so long as the other circumstances and conditions are similar.

The conclusion appears to be that special geological formations do not seem to require special rotations of crops to suit them other than the general influence of light versus medium or heavy soils. This result is further complicated by the fact that sometimes the same rotation or scheme is followed over different classes of soil. Thus some of the correspondents intimate that they have several kinds of soil on their farms, but carry on the same rotation round all. Of course, if several kinds of soil occur in one field convenience may induce one to put the same crop over the whole area, and to attempt to equalise the different soils by cultivation and manuring.

From these same returns, however, there appears to be a vast preponderance of opinion against any hard and fast rule for a succession of crops at all. Many of the writers give a rotation on a methodical scheme, but add a note to the effect that they do not hesitate to depart from the same when occasion arises, while there does not seem to be a hard and fast rule insisted on in farm agreements now as there used to be formerly.

The information which was returned to the Committee contained many items of interest regarding special or local practices, which are more or less interesting and useful, and some of these may be here described.

There are instances where a rotation is not followed for a special reason. On some clay farms in the south of England there is sometimes a field of lighter texture, which suits better for the growth of roots than any other. Under such circumstances the farmer grows mangolds year after year on this same field with the best results. Of course this is very "scourging" on the land, and therefore a heavy system of manuring has to be kept up, but good crops are obtained, and the work comfortably done because the land suits, while the mangold is a plant that can be grown year after year on the same land without any disease—such as finger-and-toe in turnips—showing itself.

In the Roothings of Essex, again, it is a common practice to follow a root crop—especially mangolds—with a bare fallow. This system of practically fallowing the land for two years in succession may at first sight appear strange and even wasteful, but it is a special system devised for the purpose of killing out wild oats. The wild oat (*Avena fatua*) is one of the most troublesome weeds met with in that part of the country, and it is no uncommon thing to see a crop of corn—wheat or oats—completely ruined for market purposes by the admixture with this weed. The plant grows similar to ordinary oats, will survive the worst of winters, and a sufficient amount of grain drops off to re-seed the land, while it will keep alive at least two years in the soil. The root crop, followed by bare fallow, kills out all seed in the soil, or if any sprouts the plants will be killed in turn. The present writer found from experience on one farm in Essex that putting the land away in grass for a few years had the same effect: when ploughed up again the wild oats were completely gone.

Another practice in Essex—in the Essex five-course shift—is growing two corn crops in succession. This would be reckoned contrary to the rules of good husbandry in some parts of England, but in this case wheat is followed by barley on land that has been well tilled and manured previously. Further, it is a case of following a deep-rooting plant with one of shallow growth, and on land in good condition a better quality of barley is obtained; if barley were grown immediately after roots fed off with sheep it would often be too rank and strong and the grain deficient.

A peculiar rotation practised in Surrey is as follows:—Corn, potatoes, peppermint, corn, potatoes, corn, catch crop (tares), potatoes. Everything was sold off and fertility was kept up by a copious use of manures; corn of various kinds was grown for a rest between the more valuable crops. The peculiarity is of course the growth of peppermint as a regular farm crop, it being sometimes “left down” for several years. The soil is a clay loam over chalk.

The standard four-course shift is admittedly, in many localities, too short for the successful growth of turnips and clover. Turnips, and more particularly swedes, are very liable to the disease called finger-and-toe—a fungoid disease which may infect the soil for years—and thus several expedients are adopted to have these roots coming round only once in, say, eight years, such as having only half of the root break in swedes and the other half in, say, potatoes, and then alternate these the next rotation; and so on.

The same difficulty is found with clover. Clover “sickness” is very prevalent with the Broad Red clover which is

ordinarily sown by itself for one year, and so to avoid failure from the growth of the same every four years, it is often requisite to add, say, 6 lb. per acre of Italian rye-grass to make sure that there will be something to cover the ground if the clover fails, or, better still, a one-year temporary "mixture" is adopted.

The difficulties met with in connection with swedes and clover occur with some other crops, but in lesser degree; though it is only in cases such as these that any special steps have to be taken to meet the case, but these exemplify the rule that crops should be as far apart in a rotation as possible.

The grass layer may not of course be put to the same use all over the country, though it is more largely confined to the wetter districts. The grass may be cut for hay or grazed by cattle, while in the southern districts the system of folding sheep within hurdles is very commonly followed, and with the best results.

Moreover, a "seed layer" may take the form of laying away in lucerne or sainfoin for a series of years. In the southern and eastern parts of England, especially where there is some chalk or marl in the soil, it is customary to put fields down into either of these crops for a change, and thus a rotation becomes broken up as it were, and the land is put out of cultivation for a time. These crops will not thrive to perfection unless there is a superabundance of limestone in the soil or subsoil, and as they send down immense tap-roots they are independent of surface droughts and suit the drier south country very well. Sainfoin will not grow very far north, but recent experiments at the Kilmarnock (N.B.) Experimental Station have shown that lucerne will grow there very well as far as climate is concerned if the soil is naturally suitable, or made so by liming.

The plants send down immense tap-roots and draw their sustenance from the deepest layers of soil or rock, and are usually left down for from five to ten years, according to conditions and cleanliness. The result is that on again breaking up the layer to resume a rotation of arable crops the soil is immensely enriched.

SUMMARY OF ROTATIONS AS RETURNED BY CORRESPONDENTS.

Three Years' Course.—Three examples returned.

(1) Potatoes or mangolds or mustard; (2) wheat; (3) oats.

Two of the examples were on fen soil in Cambridgeshire; one on heavy land in Bucks. Clover or sainfoin, instead of potatoes, are alternatives mentioned by the correspondents.

Four Years' Course.—Thirty-two examples returned.

Eleven were the old Norfolk system—roots, barley or oats, seeds, wheat, from the following counties :—Lincoln (3), Norfolk (2), Berks (2), Gloucester, Hants, Hereford, and Salop. All descriptions of soil are specified from heavy to light.

Nine examples similar to above, only that wheat and spring corn were interchangeable. From the above counties, also from Lancashire (2) and Notts., no soil was described as heavy ; “medium” to “heath” are given.

Four examples of the four-course without taking wheat. Yorkshire (2) and Northumberland (2). Correspondents supplying these specified the following soils :—“Good loam to stony clay,” “gravel,” “mixed,” &c.

One Norfolk system in Surrey had no swedes nor any barley in the rotation ; it reads, “Mangolds and potatoes, oats, ‘seeds,’ wheat.”

In the above twenty-five examples, “clover” is specified only six times as being taken once in four years ; all the other cases “seeds,” “hay,” &c., is the turn mentioned in its stead. No special county or type of soil is, however, distinguishable where clover is mentioned.

Six examples are practically the Norfolk system, except that peas, beans, vetches, and sainfoin, &c., replace part of the clover. These crops sometimes being used singly, sometimes in couples as “beans and vetches.”

One four-course from Wiltshire is as follows :—Wheat, barley, roots or clover, roots.

Besides the above examples, which are mentioned as being practised by the correspondent, very many others say that the “four-course” is commonly used in the district by their neighbours.

Five Years’ Course.—Forty examples returned. (A few examples too doubtful to include.)

The Norfolk or closely allied system with “seeds” left down two years is sent in from the following nine counties :—Cumberland, Northumberland, Durham, Yorks., Lancashire, Cheshire, Lincoln, Notts., and Shropshire ; all classes of soil being mentioned.

The same system, *i.e.*, the Norfolk, extended by taking two white straw crops, is mentioned twenty-five times, as follows :—Oats after wheat, nine times ; barley after wheat, five times ; wheat after oats, five times ; barley after oats, three times ; barley after barley, three times.

These examples come from counties as far apart as Essex and Somerset, Hants and Yorkshire, Warwick and Norfolk, and every class of soil except chalk or fen is mentioned.

Four examples where potatoes are taken as an extra crop once in five years, always after clover or “seeds,” were sent in

from Durham, Lincoln, Cheshire, and Worcester. "Strongish" to "sandy loam" being the names given to the soils.

One example with beans or peas taken between red clover and wheat is also to hand.

Six Years' Course, or Longer.—Thirty-five examples returned.

There are seven cases where the Norfolk four-course is extended by substituting mangolds, in the south, and potatoes, in the north, for the ordinary root breadth or swedes. In three cases more beans take the place of clover, so as to make this crop come only once in eight years.

"Seeds" two or three years or over account for the length of rotations returned on thirteen farms, the counties being:—Cumberland (3), Northumberland, Lancashire, Westmorland, Cheshire (2), Hereford, Devonshire, Derby, Notts, and Northamptonshire. In seven of these examples we have two white straw crops in succession, as well as the long seed ley.

In Essex and Kent we find instances of mangold after mangold, and "fallow" preceding "roots"—two fallow crops in succession. And one or two other correspondents mention it as an occasional practice.

There are two cases where potatoes are given a place in the system to themselves, in Cheshire and Northamptonshire; and in Notts. we find peas taken between wheat and wheat.

Eight examples can only be classified by saying that forage crops are taken when wanted, and cleaning crops as required, and that not more than once in six years. Corn follows corn or not, depending upon whether crops or stock be the chief product of the farm.

The following are typical of special or extraordinary long-course rotations:—

Bedfordshire (mixed soil).—Wheat, potatoes, seed-peas and market-garden crops, white straw crop, potatoes, other market-garden crops, potatoes, white straw crop.

Berks¹ (various soils).—Roots, wheat, barley or oats, barley, clover and beans, wheat, wheat.

Essex (loam).—Potatoes, wheat, clover or peas, wheat, winter oats, mangold and rabi, wheat, spring oats.

Wilts (loam over chalk).—Forage followed by roots, roots, wheat, barley, forage followed by roots, barley, clover, wheat.

Yorks (light soil on the Wolds).—Turnips, oats or barley, barley or oats, turnips, oats, seeds, seeds, wheat.

No Rotation.—Six correspondents from various counties disclaim the use of any rotation or system at all.

¹ This example is sent in by Mr. Thos. Lotham, who also has 100 acres under "continuous corn" on the "Prout" system.

Catch Crops.—There are seven systems of cropping which include catch crops. Two from Hants (one of them from the Isle of Wight), two from Somersetshire, one each from Notts., Essex, and Wilts.

In answer to the question, "What variations in the above (Rotation) are at times considered necessary?" only eight correspondents answer "none." This is out of one hundred and seven answers from correspondents, who give the system they themselves practice, and who in some few instances give two, or even three examples of the rotations carried out on their farms. The different systems generally arise from the fact that the soil farmed is not all the same, though in some cases stock is the cause, *i.e.*, early or ram-lambs, milk, &c.

The conclusion of the whole matter is that a hard and fast system of rotation is neither desirable nor necessary. It is necessary to change the crops from year to year; the same crop should not follow in succession unless under exceptional circumstances, but provided the land is kept clear of weeds and in good manurial condition the farmer may follow any system or no system at all, or he may change from time to time. The principle to follow nowadays is to grow what will pay best, or what will suit the circumstances or the occasion.

P. MCCONNELL, B.Sc., F.G.S.

North Wycke,
Southminster.

THE SHEEP STOCK OF GLOUCESTERSHIRE.

I. COTSWOLD SHEEP.

IN view of the forthcoming visit of the Royal Agricultural Society to the borders of the Cotswold country it has been thought that some account of the native breed of sheep would be of interest. The breed of Cotswold sheep derives its name from the Cotswold Hills, an elevated tract of rolling, down-like country with an area of some four hundred and seventy square miles, extending over a considerable portion of Gloucestershire and Oxfordshire. These hills have been famous for their sheep from time immemorial. Whether the name is actually derived, as Camden tells us, from the practice of "cotting" or housing the sheep in winter is open to question.¹

¹ Among the sources from which information for this paper has been gleaned must be mentioned the essays prefixed to Vols. 1 and 2 of the Cotswold Flock Book. To these we may add two delightful books descriptive of the Cotswold country, one by Mr. Hutton and the other by Herbert Evans.

Throughout Saxon and Norman times there is ample historical evidence that the keeping of sheep and the working up of the wool were carried on to a very large extent in the country round Cirencester, and in Domesday Book (1086 A.D.) "the sheeps' wool of Cirencester" is spoken of as being the Queen's due. From Goding's "*History of Beverstone*" we learn that in the thirteenth century "the quantity of sheep, nearly 6,000, kept at Beverstone is remarkable." In the same author's "*Ancient Trade of Wool and Cloth*" it is stated that, in the reign of Edward III., 30,000 sacks of Cotswold wool was the annual quantity granted from the County of Gloucester for the King's household. About the fourteenth century the Florentines imported largely into this country and took in return wool and cloth, which came from the Cotswolds. In the fifteenth century sheep farming became general, and it appears that both sheep and wool were largely exported. In 1425 a law was passed, enacting "that no sheep shall be exported without the King's licence," and there are records of licences granted by the King for the export of the wool of Cotswold sheep. It is worthy of remark that no other breed is mentioned. In 1437 Don Duarte, King of Portugal, who might easily have obtained the choicest Spanish wool from his brother-in-law, the King of Castile, made application to Henry VI. for liberty to export sixty sacks of Cotswold wool, in order that he might manufacture certain cloths of gold at Florence for his own use.¹ Stowe records that in 1464 a present of Cotswold rams was sent by Edward IV. to Henry of Castile; and in 1468 twenty Cotswold ewes and four rams were shipped for John of Aragon.

In this connection it is interesting to note that in the Spanish dictionary of Velasquez "*Cotswold*" appears as an English word denoting "an open field sheep fold." The discovery of this, and of another purely local word, namely "*Fossway*," which is translated as "a big road with ditches" in a Spanish dictionary, has led to the not unnatural surmise that Cotswold men may have accompanied their sheep to Spain and left these words as traces of their visits, and of the descriptions given of their replaced homes.

The fine churches of Fairford, Northleach and Campden, not to mention almshouses and other buildings out of all proportion to the present population of these little towns, bear testimony to their importance as centres of the wool trade, or to the munificence of the wealthy wool merchants who took up their abode in these out of the way places in order to be near the centre of their business. Each of these towns is connected with the name of families of historic interest.

¹ Youatt on sheep, p. 339.

At Chipping Campden lived William Grevel, ancestor of the houses of Warwick and Willoughby de Broke, whose fame was such that his epitaph, dated 1401, describes him as "the flower of the wool merchants of all England." Fairford, we are told by Leland, "never flourished before the coming of the Tames on to it." To John Tame, a prince of wool merchants, it owes its church and its famous windows. At Northleach we find the Celys, and interesting evidence of its importance as a centre of the wool trade is to be found in the "Cely Letters," dating from 1475-1488, recently published by the Royal Historical Society. The Celys were an important family of wool merchants with a business house in Mark Lane; they dealt almost exclusively in Cotswold wool, and Northleach is the town in that district most frequently mentioned as being visited by them. One son appears to have been permanently established on the Continent—either at Calais, where the recognised mart for English produce was at that time fixed, or at Bruges—while another would often be in Gloucestershire, buying the wool or superintending the packing.

We have therefore proof that at this time an export trade was carried on in English wool, and the relative value of Cotswold and of other wools will be seen in the following table:—¹

Date	Cotswold			Average Wool			per tod.
	£	s.	d.	£	s.	d.	
1380	0	9	4	0	6	5	
1421	0	13	1	0	7	5½	"
1452	0	7	0	0	4	3½	"
1456	0	9	4	0	4	3½	" (1451-1460)
1552	1	10	0	0	15	9	" (1551-1560)
1592	1	10	0	1	0	0	" (1583-1600)
1661	1	8	0	Spanish Wool	3	4	0
1779	1	4	10½	Hereford "	3	14	7½
1836	2	5	0				"
1840	3	10	0				"
1870	2	0	0-2 5 0		2	0	0-2 5 0
1906	1	8	0-1 15 0		1	8	0-1 16 0

We may form an idea of the relative values of farm produce at the earlier dates from the fact that from 1260 till 1540 wheat was sold at an average price of 5s. 11¼d. per quarter, while from 1495 till 1770 the average prices of various articles of diet were as follows:—butter 1d., cheese ½d., meat ¼d. per lb., bread ¾d. the four-pound loaf.²

In the 16th century Michael Drayton (1561-1631) wrote:—

"The sheep our Wold doth breed
(The simplest though it seem) shall our description need,
And Shepheard-like the Muse thus of that kind doth speak.

¹ Cp. Victoria County Hist., Gloucestershire.

² Thorold Rogers. *Work and Wages*, pp. 1 and 119.

No brown, nor sully'd black, the face or legs doth streak
Like those of Moreland, Cank, or of the Cambrian Hills
That lightly laden are ; but Cotswold wisely fills
Her with the whitest kind : whose brows so woolly be
As men in her fair sheep no emptiness should see,
The staple deep and thick, through to the very grain
Most strongly keepeth out the violentest rain—
A body long and large, the buttocks equal broad
As fit to undergoe the full and weightie load."

Previous to the year 1760 it is probable that the greater part of the Cotswold country was open down, used as sheep pasture. Marshall, writing in 1796, says that previous to enclosure the country was devoted to breeding flocks, the yearlings being sold to graziers, in Buckinghamshire. It is natural that, under such circumstances, wool production should have been the primary object of sheep-farming in the district. The improvement in arable husbandry, the introduction of the turnip and consequent development of winter feeding, and the extraordinary improvement of the Leicester sheep from the point of view of mutton, resulting from the efforts of Bakewell and his followers, had their effect upon the Cotswold breed. Thus Marshall tells us ("Rural Economy of Gloucestershire") that the Cotswold of the day was fuller behind and lighter forward than most breeds, but that the crossing with the new Leicester then being practised would fill up the fore quarter.

Rudge, in his report to the Board of Agriculture in 1813, describes the Cotswold of his day as a large sheep, coarse in the wool, weighing from 22 to 30 lb. per quarter at two shear, *i.e.*, three years, and capable of being fatted to 45 lb. per quarter, and cutting 9 to 10 lb. of wool. He adds, that the result of crossing the New Leicester with the Cotswold was to make the wool shorter and finer, the carcase lighter and more compact, the bone finer, the neck smaller, and the best parts covered with flesh and fat. Another cross, prevalent at the time, was that of the Cotswold with the Southdown, breeders being guided in their adoption of one cross or the other according to whether their desire was to breed for wool or for mutton. To such an extent was crossing with the New Leicester practised, that pure-bred Cotswold flocks had become rare at this time. But, in spite of the advantages gained by this cross, it was found that the New Leicester blood tended to reduce the hardiness of the breed and to lower the yield of wool, as well as to injuriously affect the fecundity of the ewes. These considerations led to a return to the use of a pure-bred Cotswold ram.

By degrees a uniform breed was established, and the practice of out crosses was discontinued. Mr. Elwes, in his

essay prefixed to Vol. II. of the Flock Book, quotes Mr. W. Lane, of Broadfield, to the effect that he could not remember a Leicester cross being used later than 1830.

The following weights of two-year old wether sheep, shown by James Clother, of Gloucester, at Smithfield in 1808, are of interest as showing the development of the Cotswold as a mutton sheep a hundred years ago :—

No. 1.	Live Weight	271 lb.	Carcass	177 lb.	Fat	20 lb.	Offal	74 lb.
" 2.	" "	273 "	" "	184 "	" "	18 "	" "	71 "
" 3.	" "	272 "	" "	184 "	" "	19 "	" "	69 "

Having produced a breed of sheep which combined the superior carcass of the New Leicester with the size, hardiness, and heavy fleece of the old Cotswold, the next move was in the direction of early maturity. As early as 1838, Mr. H. Lane, of Broadfield, by adopting the practice of cutting roots for his tegs, succeeded in fattening them out in April (*i.e.*, at fourteen months), at the estimated weight of 25 lb. per quarter, but the practice was not general until later.

The development of railway communication, the establishment of agricultural shows, and the general activity and desire for improvement which prevailed in the first half of last century, all contributed to spread the fame of the Cotswold sheep beyond its own country, and to widen its popularity. Pure-bred flocks were established in Wilts, Hereford, Worcester, Glamorgan, Norfolk, Kent, and Somerset. Mr. John Bravender, writing about 1850, says : " Our sheep are in great demand in all parts of England, as well as Ireland, for crossing with other breeds." Mr. R. Smith, in his prize essay on the management of sheep, wrote, in 1847, that Cotswold rams were " much sought after for crossing with short-woolled breeds, and with good effect."

About this time it was estimated that in Gloucestershire alone 5,000 rams were sold and let in a season, at a total price of little less than 50,000*l.* About ten years later the numbers had fallen to 4,000. During these years there was a good export trade to America, Australia, and the Continent of Europe. In the *Times* report of the Royal Show at Lincoln in 1854, it is stated that the breed had found great favour with American agriculturists, and that one breeder had sold in that year seven rams and ten ewes to a transatlantic purchaser, at prices amounting in the aggregate to nearly 1,000*l.*

The records of the Royal Agricultural Society's Show are evidence that the Cotswold men were not behind in the showyard, and Cotswold sheep, although not allotted a class to themselves until 1862, frequently swept the board in the classes for long-wools. In the early days of the Society, the names of Large, Carne, Lane, E. Smith, Hewer, Handy,

Beman, Wells, Slatter, Fletcher, Beale, Brown, Walker, King, Tombs, and Gillett were among the most prominent prize-winners.

It was about this time that the supremacy of the Cotswold sheep in their native district began to be disputed by what was originally a cross-bred sheep, the product, namely, of mating a Cotswold ram with a Hampshire (or in some cases a Sussex Down) ewe.

The prize essay of Vol. 15, First Series, of the Royal Agricultural Journal, by the late Mr. Clare Sewell Reade, written in 1854, contains an excellent description of the Cotswold of that day. He also gives a good account of the cross-bred sheep, destined in the course of the next thirty years to largely displace it as the general breed of the country. He being such a competent authority of the time, I cannot do better than quote his words at some length.

The Cotswolds, sometimes called Gloucesters, or New Oxfords, are described as a "hardy, heavy, most useful breed of sheep, gradually and most desirably rising in public estimation. . . . The improvement which has been effected in these sheep within the last twenty years is surprising; they may be indebted to the delicate Leicesters for diminishing their coarseness, producing aptitude to fatten, and rendering the fleece of finer quality. But they have not lost their gigantic size or hardiness, which so fits them for cold and elevated situations. As a farmers' sheep they are much superior to any other long-wools, producing a great weight of mutton and a heavy fleece at a very early age. Tegs at fourteen months old will commonly weigh 10 stone, or 80 lb. per sheep, and clip 8 or 9 lb. of wool. Numerous instances might be cited of a much heavier weight, but the above is a fair average. The weight on record of some Cotswolds appears almost fabulous: two rams killed in one year at Middle Aston weighed 84 lb. per quarter, and last Christmas three ewes from the same flock only missed 3 lb. of averaging 60 lb. per quarter.

"The principal fault found with the Cotswolds is that their meat gives too much to the grease-pot and too little to the table; the mutton is a penny a pound less in value than that of the Downs, but the extra weight compensates for the deficiency."

After enumerating the principal Southdown flocks kept chiefly by the "nobility and gentry," the writer goes on to say:—

"But the present 'glory of the country,' the most profitable sheep to the producer, the butcher and the consumer, are the 'Half-Breds,' better described as 'Down Cotswold.' The

Down Cotswold sheep of this country were originally a cross between the Cotswold ram and the Hampshire Down ewe ; but the cross, having been bred from for nearly twenty years without the infusion of any fresh blood, has become a distinct breed of sheep, quite as distinct and quite as pure as the sort called Shropshire Downs”

In helping to produce this breed (the Oxford Down), the Cotswold performed one of its principal services to English sheep breeding, and, as was natural, the success of the new breed reacted on the popularity of the old. The process was, however, a slow one, and during the transition period there was a considerable demand for Cotswold rams for crossing on the Down ewes.

Nor was this the only direction in which the Cotswold blood exerted an influence. There is scarcely a pedigreed long-woolled breed which does not owe something to the infusion of this blood. As was natural, this wide demand for Cotswold rams meant a brisk trade and high prices. In this respect the high-water mark was reached between the years 1860 and 1875. In 1861, the highest recorded average was made by Mr. Robt. Lane, of the Cottage Farm, Northleach, viz., 34*l.* 10*s.* 8*d.* per head ; in 1867 Mr. W. Lane made an average of 31*l.* 17*s.* 11*d.* for fifty-four sheep, and in 1873 Mr. Robert Garne made 28*l.* 16*s.* 4*d.* for fifty-four sheep.

The position held by the Cotswold has undergone considerable change of late years. The popularity of the Oxford Down has been steadily growing and sheep of that type have now, and for some years past, practically replaced the Cotswold as the ordinary stock of the district. The Cotswold flocks which remain are principally pedigreed flocks, kept for the purpose of breeding rams or ram lambs. Even the number of these has declined of late years, as a comparison of the number of registered flocks in 1890 and 1907 will show. This reduction in numbers has been in obedience to the laws of supply and demand, and the breed now seems to have reached a stationary point. In an age when every breed has its own flock-book, an out-cross, however beneficial, is seldom resorted to, and breeds which have owed much to an infusion of Cotswold blood in the past, are now rivals rather than clients. The result is that the market for Cotswold rams is mainly restricted, in this country, to the eastern counties, where the breed has proved itself particularly suited for crossing with the native sheep of the prevailing Suffolk Down type.

The export trade, too, although it does not show the magnificent proportions, nor attain to the high prices, reached in the case of some other breeds, is not to be despised, and is not only general in its distribution, but is largely carried on

with countries which have a great agricultural future before them. Canada and Russia are good patrons of the breed, and it is not a vain prediction that in the wide development which awaits the great north-west of Canada and the great north-east of Siberia, the Cotswold, which has proved itself an essentially cold-country sheep, will be required in large numbers. In the United States, also a considerable exporter, the breed has been firmly established for sixty years or more. A return given in the Year Book of the United States Department of Agriculture for 1899 of the various American sheep-breeders' associations, shows the number of registrations in the case of the Cotswolds to be 21,000, the highest of any breed. A considerable number of animals have also been exported of recent years to France and Spain.

From the foregoing history of the breed and from the descriptions which have been quoted from contemporaneous authorities at various points in its history, a general impression of its characteristics will have been gathered, and it only remains to fill in more in detail the chief points of the modern Cotswold with reference to its general appearance, show points, constitution, and capacity as a producer of wool and mutton.

What perhaps most distinguishes the Cotswold from almost any other breed is its extraordinary bold carriage. The head, carried well up, on a finely turned and slightly arched neck, the ample forelock, full breast and bold, free walk, all contribute to give the Cotswold ram an imposing appearance. The head is of a fair length and remarkably clean-cut, with a deep, well-defined jaw. The muzzle ends squarely, not running to a point, and in the ram the bridge of the nose is wide and bold. The poll is covered with a forelock, more conspicuous than in any other breed, which falls well over the brow and nose. The eyes are large and dark; the ears, which are carried well up, are long and of a fair width, thin, not fleshy, and covered with fine close hair of a greyish colour, showing no shade of the pink flesh below. The back is straight and well carried-out to the rump, which however should not project too much, as is sometimes the case in older sheep. The ribs are well sprung, which gives the breadth of back so characteristic of the breed, and the covering of flesh throughout the whole course of the back should be so deep, firm and even that the hand of the judge should, in the case of a show sheep, have no suspicion of the framework beneath.

Next to its bold head and fine carriage, the broad, firm, well-covered back of the Cotswold is its strongest and most distinguishing feature, and has particularly adapted it for improving the deficiencies of other breeds.

The fulness of the breast has already been mentioned, and it may be added that the Cotswold is well developed through the heart, and girths remarkably well. Although an upstanding sheep, the Cotswold carries a good deal of middle, which contributes to its generally square and massive appearance. The leg of mutton is good, although hardly as good as in the Down breeds.

The wool should be long, lustrous and thickly set, not too fine and yet not coarse, with a well-defined lock, showing a wavy curl, and in tegs should measure from $10\frac{1}{2}$ inches to 11 inches in length. The belly should be well covered, and a bare poll is an abomination. The quality of the wool on the body should be uniform, not showing "two sorts of wool," as they say, nor should it be coarse and "doggy" on the thighs.

One of the most valuable qualities of the Cotswold is its strong constitution and power of thriving in the most exposed situations and in the most rigorous climates. By nature a hill sheep, it can fatten on a thin brashy soil, but it is capable at the same time of standing the mud of a heavy fold better than most breeds. Perhaps the purpose for which it is least suited is that of grazing in rich, low-lying situations. Its general adaptability is remarkable, although, speaking generally, it has shown a decided preference for a cold climate and has not made as much headway as some other breeds in the Argentine and Australia.

The ewes are good mothers, being both quiet and tractable and good milkers. In fecundity they surpass the Leicesters, and are up to the average of most English breeds. After weaning they rapidly regain their flesh and seem able to get fat on next to nothing. In this respect they are far superior to some more popular breeds.

As a mutton sheep the modern Cotswold matures early, as on an average it can be fed out at ten to fourteen months at 20 to 25 lb. per quarter. The weight of 6 cwt. 1 qr. 23 lb. for a pen of three 9 months old Cotswold tegs exhibited by Mr. Fk. Craddock at the Smithfield Show in 1892 has only twice been exceeded by any breed in the history of the club. This, notwithstanding that the exhibits of Cotswold sheep at Smithfield have been comparatively few in number. The case of a ram 2 years 3 months old, killed by Mr. W. Lane of Broadfield, which weighed 90 lb. per quarter, will show the weight to which a Cotswold ram can attain.

An elaborate series of experiments carried out by Sir J. B. Lawes¹ on some of the leading long-woolled and short-woolled

¹ Journal R.A.S.E., First Series, Vols. XII., XIII., XVI., XXII., and XXIII.

breeds showed that Cotswold sheep consumed less food in proportion to live-weight increase than any other breed in the experiment; that, as compared with Hampshires and Sussex Downs, they gave a heavier carcass in a given time, a heavier proportion of carcass to live-weight, a considerably larger proportion of outside fat and less of loose or internal fat. These experiments further demonstrate that, in the case of the Cotswolds, the animals of largest increase showed most markedly the characteristic defects of the long-woolled sheep, that is to say, the coarsest meat, and a deficiency of internal and an excess of external fat, more particularly on the breasts and rumps.

These results fully bear out the opinion of the butcher, namely, that Cotswolds have suffered in their reputation from not being brought out sufficiently early, with the result that they are often sold at too great weights, and when too fat to be profitable either to the producer or to the retailer; that, as a breed, they carry a considerable portion of their meat on the inferior parts of the carcass, while a section through the back and loin shows a smaller depth of lean meat than is the case with Downs or half-breds. The growing demand for small joints is another factor which tends to depreciate Cotswold mutton.

It must, however, be borne in mind that the very qualities which militate against the popularity of the pure-bred Cotswold, as a butchers' sheep, are among the most valuable attributes of the breed for crossing purposes.

Wool has always been a strong point of the breed, and at one time was a more important consideration than mutton. Even as late as 1870, when wool was worth 70s. per tod, the clip of the flock would often more than pay the rent of the farm. Since then the period of low prices has led to some neglect of this important produce. Breeders were induced to sacrifice wool to mutton, but of late years there has been a reaction—much to the advantage of the breed for crossing purposes in this country and abroad. The yield of wool of some of the best flocks has reached astonishingly high figures; at one weighing recorded of late years, 1,100 fleeces from one flock gave 417 tod of washed wool, an average of $10\frac{1}{2}$ lbs. per fleece. Another recorded average is 10 lb. 5 oz., but, speaking generally, 9 lb. is a good average. Togs have been known to cut 22 lb. of washed wool, and a good tog fleece will measure $10\frac{1}{2}$ in. to 11 in. in length of staple.

It will be asked whether there is any attempt on the part of breeders to modify their animal to meet modern requirements. The answer is undoubtedly in the affirmative. The general tendency is in the direction of a rather smaller and

more compact animal on shorter legs, with plenty of bone, and at the same time more attention is being paid to both quantity and quality of wool.

Such a modification is in harmony both with the developments of modern sheep-breeding in this country and with the requirements of the foreign, and more especially the North American, buyer. These requirements, on the authority of a well-known exporter, may be summarised as follows:—A sheep well set on its legs, with a leg—so to speak—at each corner, especially strong on its joints; not over-fed, but with the greatest possible quantity of lean flesh; with a good straight spine, capable of growing a thick-set, heavy fleece of good quality, but not too fine.

Some account of the management of a Cotswold flock may not be without interest. The ram is turned out with the ewes at such a date that they bring their lambs soon after the New Year. Shortly before lambing, the ewes are brought to the lambing-pen erected in the field of roots reserved for the ewes and lambs. The lambs, as they are strong enough to leave the pen, are drafted off with their mothers to another part of the field, provided with some temporary shelter, where they are hurdled on the roots, the lambs running forward and picking the tops of the swedes, and receiving cake and corn in troughs to themselves. The ewes with single and double lambs are usually kept separate, the latter being better done. The swedes are succeeded by seeds—or better, sainfoin, which crop is a sheet-anchor of Cotswold sheep-farming, being regarded as an almost infallible corrective, if the lambs need a change—all foldings being supplemented by mangolds carted on to the land. Though hurdling, with a forward run for the lambs, is sometimes resorted to, the more usual practice is for ewes and lambs to run the whole field.

Weaning takes place about the end of May or beginning of June, shortly after which the winter-grown vetches will be ready, and the lambs are hurdled on them, eating off the crop or having it cut and put in racks according to the heaviness of yield and the state of the weather. By the time the vetches are finished there will probably be after-math seeds or sainfoin on which the lambs run thinly, being frequently changed from one field to another, until the early turnips are ready for folding. A good practice is to combine a fold of turnips at night with a run on the seeds by day. As soon as the lambs are on turnips they are given hay in racks at night and chaffed hay with their cake in the morning. The turnips being finished, the lambs are changed on to the swedes, which are generally cut and given them in troughs.

Any ram lambs intended for showing are picked out in November and housed under cover with a yard to run in, and fed on cut roots, cake, corn, peas and beans, their feeding continuing the same until early cabbage and vetches succeed to swedes and mangolds.

The ewes meanwhile, after weaning, are washed and shorn and put on the barest common available until shortly before the turning out of the rams, when they are changed on to better keep, a piece of aftermath clover and rye-grass being the most usual feed available at the time. This may be followed by a run on the stubbles to pick up any heads of oats or barley which may be left. As long as there is grass, or seeds, the ewes should not go on to roots, it being found that the fewer roots they have before lambing the better. When necessary to put them on they should have as much hay and exercise as possible.

The private sales of rams, at one time such a feature of Cotswold ram breeding, have been discontinued in the district for some years, although the practice is still continued by Mr. Davis Brown in Norfolk. Public auction and individual sales have replaced them. The recent rise in the price of wool has given a decided stimulus to the demand for Cotswold rams, some idea of which as well as of the principal markets, and of prices realised, will be gained from the following figures extracted from returns published in agricultural annuals; the figures, be it understood are not complete.

At Hampton Green Fair in 1908, 85 rams averaged 11 guineas, while 35 ram lambs averaged 11*l.* 10*s.* 6*d.* At the same fair in 1907, 187 rams averaged 10*l.* 14*s.* At Messrs. T. Brown & Son's private ram letting at Marham Hall, Norfolk, in 1906, 80 rams averaged 9*l.* 8*s.*, while 120 ram lambs averaged 8*l.* 6*s.* 3*d.* In 1907, 80 rams from the same flock averaged 9*l.* 7*s.*, while 120 ram lambs averaged 7*l.* 16*s.* A certain number of rams and ram lambs are also sold at Cirencester Ram Fair in August and September, when some good prices are made, although the average is not so high as these already given.

Sales are also held at Oxford, Gloucester and Ilsley Fair.

BRUCE SWANWICK.

The Thatched House,
Coates, Cirencester.

II.—OXFORD DOWNS.

HISTORY OF THE BREED.

ABOUT the year 1827 Messrs. Druce of Eynsham, Gillett of Southleigh, Blake of Stanton Harcourt, and Twynham of Hampshire, undertook the raising of a new breed of sheep that should, in a great measure, possess the weight of the "Long Wool" with the quality of the Down. Some slight admixture of the Sussex Down may have been introduced by those early breeders, but the Cotswold grey-faced ram and the Hampshire Down ewe were the chief materials, which, by judicious blending and careful selection have resulted in a class of sheep difficult to equal—on account of size, weight of wool, aptitude to fatten and excellence of quality of mutton.

In the year 1857 they were given the name of the "Oxfordshire Down," now for the sake of convenience shortened to Oxford Down, the county of Oxford being then their stronghold.

It is more than gratifying to Oxford Down breeders to find that their breed is to a large extent being adopted on the hill-country of Gloucestershire. When the breed was first introduced in the year 1849, some ten to fifteen rams were sold annually at ridiculously low prices; now at Cirencester, the capital of the Cotswolds, there are hundreds sold annually at remunerative rates, and of the thousands of mutton sheep monthly bought out of the hill-country, to be sent to the more densely populated districts, nearly the whole are Oxford Downs.

The Royal Agricultural Society gave the breed a separate class in the year 1862, at Battersea, when they numbered sixty entries and were much admired. In the years 1872, 1875 and 1887, Oxford Downs gained the Champion prize over all breeds at the Smithfield show. Mr. Rush and others have many times won first and champion prizes at Smithfield with the produce of the Oxford mated with the Hampshire Down ewe.

In 1889 the first flock book connected with the breed was published in England, although in North America an Association for the publication of an Oxford Down record had been established in 1881, and the breed has flourished there from that date. In the 1889 edition of the English Oxford flock book there are 87, and in the 1908 edition 200 members' names, and the annual demand for sires has increased in the same proportion.

DESCRIPTION.

In the first volume of the Flock Book, Mr. R. Henry Rew describes a typical Oxford Down ram as follows :—

“He has a bold masculine head—well set on a strong neck—the poll is well covered with wool, and adorned by a top-knot—the ears are self-coloured and of good length—the face is a uniform dark-brown colour; the legs are short, dark coloured and placed well outside him—the barrel is deep, thick and long, with straight underline—the chest wide—the back level—ribs well sprung—tail broad and well set on. The mutton is firm, lean, and of excellent quality—the fleece is heavy and thick on the skin.” I have nothing to add to this except to emphasise that the face is to be a uniform dark coloured brown—much preferable in my opinion to coal black, as the wool and skin in the dark brown faced sheep are usually of better quality and colour, and freer from dark spots and black wool.

Mr. Rew goes on to say that as good wine needs no bush, so Oxford Down sheep need little recommendation to practical farmers. Alike on arable and grass lands they are at home. For crossing purposes, an Oxford Down ram can scarcely come amiss, he will give size and weight to Short-wools and quality and good mutton to Long-wools, without in either case impairing the original good qualities of the flock.

When trying to turn out weighty sheep, I find by frequently weighing them that the long ones give the best results. Long, low, and lusty should always be borne in mind when selecting your animal. Then as regards shoulders—a most important point—my idea is that they should be placed obliquely, meeting on the top, and be well covered with firm lean flesh. More care should be taken than is customary in the selection of a sheep that handles well on the back. Sheep will not win prizes in these days when quality is so much to the front unless the back is covered with firm flesh.

Considering now the fleece, the showyard authorities insist on the sheep being well covered all over with wool of a close spongy texture. They have in mind the quality of wool—as well as of mutton—to be seen in the Southdown. Our ideal should be the *quality* of the Southdown, with added *size and weight*, for the Oxford. Furthermore, all animals should be active and straight on their fore legs, have their hocks well placed and widely separated, and be well set up on their pastern joints.

DISTRIBUTION.

In these days, when better meat and more of it must be the watchword of the breeder, Oxford Downs are bound to

play a prominent part in British Agriculture. They are now found in districts very widely separated—ranging from Cornwall to the North of Scotland, and from Wales to Norfolk. Ireland has also now many pure-bred flocks, and the breed appears to be yearly gaining in favour in that country. Scotland has been a great friend and patron of the Oxford Down, hundreds being annually sold at Kelso and other places, the cross Oxford lambs generally exceeding in price all other crosses.

The United States of America, Argentina, Chili, Monte Video, the Australasian Colonies, and the whole Continent of Europe, are purchasers of the breed in increasing numbers.

MANAGEMENT.

In August the breeding flock clears up any seed-land that may be left over before it is ploughed for wheat. When the object is to breed either for the showyard or “fat lambs” they are put to the ram in August, so as to produce lambs early in the year. Ewes to produce mutton sheep come to the ram from the middle of September till October. Subsequently they run the stubble and afterwards graze any rough grass until nearly Christmas.

Before lambing ewes should only have a limited supply of roots. The lambing pen is usually made in a turnip or swede field, a dry spot being chosen, near a hayrick if possible, surrounded by thatched hurdles and liberally littered with straw. Get the new-born lambs away from the lambing pen as soon as possible, and let them run on through “creeps” in front of ewes so that they may pick and choose the youngest and most succulent mouthfuls of whatever fodder crop they are folded on, supplying shelter by means of sheltering cloths or thatched hurdles. Ewes when suckling should have about one pound of corn or cake, and hay in addition to roots; lambs should have access to a little of the very best hay and a mixture of corn and cake in their own troughs, which should be placed near the creeps out of the ewes’ reach. The time of weaning much varies—on the Cotswold Hills in Gloucestershire it is from the middle to the end of May, and in grass districts much later.

After weaning, lambs on the Cotswolds are taken on to rye and young seeds early in May, afterwards they are put on to vetches, and all this time a few mangolds are a great help. In the latter part of July lambs are folded on the second growth of clover and mixed seeds, rape follows on; in September turnips should be ready for folding.

The rams and ram lambs are sold in August and September. A number of ordinary Oxford lambs are ready for

the butcher in October, when they weigh between seventy and eighty pounds dressed carcass.

If fattening sheep are kept until the spring and shorn, on the Cotswold Hills they are usually folded on turnips or swedes, getting hay and as lambs a quarter of a pound of concentrated food and gradually working up to a pound each before being sold fat after shearing in the spring. Farmers find it an enormous advantage in these times, when economy has to be considered so minutely, to be able to make their sheep ample weights while allowing the feeding animal to gnaw the roots on the ground and so dispense with the additional cost of cleaning and slicing or grinding. Ram lambs to be sold in August and September must never have a bad day, and their capacity for eating cake and corn is enormous, two pounds each before they are sold being no extraordinary ration. Those sold as shearling rams seldom exceed this quantity—a plentiful supply of vetches and cabbage in addition being given.

As to whether sheep should, or should not, be washed before shearing appears to me an open question.

Breeders of great experience and keen perception cannot speak with any degree of certainty as to the monetary comparison between the two systems. Personally, I do not wash, although my sheep are largely on arable land.

Sheep often receive rough treatment at the washing pool and bad effects follow, counterbalancing any increased value to the wool that may accrue from the washing.

SALES.

As regards amounts realised by the sale of sheep of this breed, Mr. R. L. Angas, writing in 1906 on the Agriculture of Oxfordshire, quotes the following prices for lambs born early in the year 1904 and sold for mutton the following October, November, and December at Oxford, Woodstock, and Thame, namely, 66s. 6d., 63s., and 71s. 6d. respectively, and in 1905 70s. and 78s. These figures can be authenticated.

When dispersed, Mr. Worley's flock of ewes made 4l. 17s. 5d. a head in 1906. In the same year the highest average for shearling rams at Oxford Fair was 12l. 18s. for 28 sheep; at Cirencester August Fair, 1906, 55 rams averaged 16l. 17s. 9d.; and at Kelso 10 rams averaged 18l. At the Oxford Fair, 1906, 56 ram lambs averaged 11l. 13s. 8d.; and at Cirencester Fair 10 ram lambs averaged 9l. 14s. 1d.

In 1907 : Cirencester August Fair, 56 shearlings averaged 14l. 1s. 7d.

Winchendon Sale : 59 shearlings averaged 22l. 17s. 0d.. highest price 157l. 10s. 0d.

Oxford Fair : 16 rams averaged 16*l.* 6*s.* 10*d.*

Kelso : 10 rams averaged 23*l.* 18*s.* 0*d.*

Oxford Fair : 28 ram lambs averaged 13*l.* 4*s.* 4*d.*

Cirencester : 15 ram lambs averaged 8*l.* 11*s.* 0*d.*

In 1908 : At Cirencester August Fair, 43 shearlings averaged 20*l.* 1*s.* 8*d.* Highest price 141*l.* 15*s.* 0*d.*

Oxford Fair : 33 ram lambs averaged 10*l.* 15*s.* 5*d.* Highest price 65*l.* 2*s.* 0*d.*

The sales this year at the Palermo Show, Argentina, are very encouraging to Oxford breeders. Mr. Vivot averaged 25*l.* 12*s.* 6*d.* for fifteen. Mr. L. Perequa averaged 21*l.* 8*s.* 9*d.*, Mr. Vega's average was 19*l.* 3*s.* 0*d.* Many others made good prices.

WEIGHTS.

Referring to weights in 1905 the three shearling Oxford wethers gaining first prize at Smithfield weighed 9 cwt., being the heaviest pen in the show excepting Lincolns. In 1906 the first prize Oxford shearling wethers weighed 9 cwt. 18 lb., the Lincolns alone again exceeding them in weight. The first prize pen of three Oxford wether lambs in 1907 weighed 6 cwt. 9 lb.

One of the ram lambs in the first prize pen at this year's Newcastle Royal weighed 176 lb. on June 26; it weighed 115 lb. when 93 days old.

The weight of wool taking the whole flock is about 7 lb. per head, individual sheep cutting as much as 18 lb.

QUOTATIONS FROM AUTHORITIES.

Mr. Clare Sewell Read writes referring to Oxford Downs in Oxfordshire : “ . . . the glory of the county, the most profitable sheep to the producer, the butcher, and the consumer.”

Mr. Philip Pusey says in favour of Oxford Downs that they have “ superior quality and therefore higher price per lb. as compared with long woolled sheep, and the superior weight of wool and of mutton as compared with the short woolled sheep.”

In conclusion I should like to quote Mr. Treadwell's remarks, written in his eighty-first year and dated October 28, 1908 :—

“ Oxford Downs will improve any breed they are put upon, either give them size and weight, or quality, and improve the wool. We breed them now with so much more lean meat that they can be sold as fat lambs at light weights, or kept on and made any weight you like.”

J. T. HOBBS.

Maisey Hampton,
Fairford, Gloucestershire.

FARM BOOK-KEEPING.

IN the Judges' report on the Farm Prize Competitions, 1907, the winner of the first prize in the principal class gives it as his opinion that, "so long as a farmer keeps a record of his transactions which will enable him to strike a balance in 'Profit and Loss' account, he does all that is necessary," and subsequently reference is made by the Judges to his "well-kept and carefully audited books."¹ Surely, if the striking of a balance in the profit and loss account is all that the book-keeping leads up to, the keeping of accounts of any sort on a farm is rather a waste of time. The farmer's bankers will keep his cash account for him, and a glance at his pass-book and at any unpaid bills he may have, together with an annual valuation of his stock and tenant-right, will enable him to strike a balance in profit and loss in a few seconds. But whilst a knowledge of the profit on the farm *as a whole* may suffice for those having the exceptional ability and great experience of the gentleman referred to above, there must be many to whom detailed information as to the *net profits on each department* of the farm would be of the utmost value. It must be granted that the accounts kept by very many farmers are of a decidedly elementary character, and possibly the explanation lies in the fact that they and their fathers before them have found that the usual arrangement of accounts recommended to them taught them so little about the details of their business as to justify their abandonment altogether. In commerce it has always been recognised that accurate accountancy is essential to success. By the system of "costs book-keeping" which prevails in all well-managed manufacturing establishments, the manufacturer is able to arrive at the net cost to him of the various articles constituting his output, and an adaptation of this system ought to be made to agricultural affairs as it constitutes the only reliable guide to the profitable development of any enterprise, and no commercial man would embark capital in a concern where the book-keeping was conducted on the somewhat "sketchy" lines followed by the general run of agriculturists.

It may be that, in knowledge of accountancy, the average farmer is at a disadvantage in comparison with the purely commercial man; moreover, even in those rare cases where accurate accounts are kept, enabling the farmer equally with the business man, to put his finger on the exact source of his losses, he is not able always to follow the example of the latter by ceasing to pursue unprofitable lines because his sphere of operations is necessarily restricted by the nature of his holding,

¹ Journal R.A.S.E. 1907, page 179.

by the custom under which he holds, by his markets, and by various other circumstances.

There is no doubt that the farmer, anxious to improve his business methods by embarking on a system of book-keeping which will enable him to ascertain *costs*, cannot get much help from the text books. There are plenty at his disposal, and most of them excellent as far as they go, but there is the serious objection to them all that after leading him through a maze of operations more or less intricate, they bring him only to a knowledge of the *gross* profits on his different operations: Gross profits resolve themselves too often into net losses when the truth about the accounts is arrived at, and nothing can be more deceptive or less useful than a "Profit and Loss" account comprising only gross profits and losses—however correct the *balance* of such an account may be. As a matter of fact, the farmer, seeking for a system of "costs" book-keeping, has to go back nearly a hundred years to find an account of anything likely to be of service to him. The subject of farm accounts did not escape the attention of Arthur Young, and with characteristic thoroughness he evolved a system which is of the greatest value to the agriculturist. This system is described in the "Farmer's Calendar" and, though the extreme detail recommended by Young in certain directions is open to criticism as entailing unproductive labour, this does not constitute a serious objection, for one great advantage of the method is its absolute elasticity, so that the degree of complexity to which the accounts are carried is a matter entirely for individual convenience or capacity.

No great knowledge of accountancy is demanded by the method. The first step is to consider in what departments of the farm profits may be made; the second step is to open ledger accounts for each of these departments. The important thing to be borne in mind is that, sooner or later, every item of income and expenditure on the farm must be brought into one or other of these accounts. It will be seen later that certain subsidiary, or auxiliary, accounts may have to be opened, but before the books are closed at the end of the year, their balances will have been transferred to one or other of the first mentioned accounts. The departments in which profits can be made depend, of course, upon the nature of the farming, and each one must decide for himself what he requires. For ordinary mixed farming there will be only "Live Stock Accounts" and "Land Accounts." These can be split up as desired under various headings, and it might be mentioned that those which follow here are merely by way of illustration. The arrangement may be simpler or more complex according to taste.

Live Stock Accounts.—The farmer should not be content with a “Cattle Account” and a “Sheep Account” and so on, for he will be unable thus to realise to the full the advantage of this system of book-keeping; accounts should be opened for each of the different *classes* of Live Stock. Thus there will be :—

Cattle Accounts.	1. Breeding Stock.
	2. Stores.
	3. Feeding Stock.
Sheep Accounts.	1. Breeding Flock.
	2. Lambs.
	3. Feeding Sheep.

And so on.

Any of these can be subdivided to any desired extent. Thus, in the Cattle Accounts, separate accounts may be opened under the general heading of “Feeding Stock” for different lots of cattle put up to fatten, with the object of getting at the profit on each lot, or for comparing the economy of different food rations. Different breeds of cattle or sheep can have their own accounts—in fact, subdivision can be carried out to almost any extent, care being taken at the same time to avoid useless labour and to have no accounts other than those which will impart information about the business.

Having opened the necessary live stock accounts in the ledger each one must be *debited* with (*a*) the value of the stock at the beginning of the year and the cost of stock bought during the year falling under its particular heading. Each account must also be charged with its share of expenses such as (*b*) manual labour, (*c*) horse labour, (*d*) rent and rates and (*e*) establishment expenditure. Each account must further be charged with the keep of its stock such as (*f*) grazing, (*g*) home-grown foods consumed and (*h*) purchased foods consumed. Lastly, each account must be debited with (*i*) the value of the stock transferred to it from other accounts during the year, for it will be obvious that there must be a constant transference of stock from one account to another. Thus, when a calf is weaned, the breeding stock account is credited with its value, whilst the store stock account is debited. When heifers come into the herd or when steers are put up to fat, the store stock account is credited and either the breeding stock account or the feeding stock account is debited. Similarly with the sheep and pigs.¹

On the other hand each live stock account must be *credited* with (*a*) the proceeds of stock sold, (*b*) the value of stock transferred to other accounts, (*c*) the value of the residues of

¹ Bulls, rams, and boars are, of course, charged to Breeding Stock Accounts.

foods consumed, (d) the value of stock remaining at the end of the year and any other receipts. These accounts have now only to be balanced, to give the *true net profit or loss* made by the farmer on each class of live stock on his farm.

By way of illustration a group of cattle accounts as they would appear in the ledger, are here set out, many of the entries being, of course, summarised :—

BREEDING STOCK ACCOUNT.

DR.	£	s.	d.
To Valuation of Cows at beginning of year	400	0	0
„ Manual Labour during year	50	0	0
„ Horse Labour during year	15	0	0
„ Rent and Rates	12	0	0
„ Establishment Expenses	3	0	0
„ Grazing	90	0	0
„ Home-grown Foods consumed	60	0	0
„ Purchased Foods consumed	72	0	0
„ Value of Heifers transferred from Store Stock Account	60	0	0
<i>Net Profit on Breeding Stock</i>	68	0	0
	<u>£830</u>	<u>0</u>	<u>0</u>

CR.	£	s.	d.
By Milk sold	250	0	0
„ Value of Calves transferred to Store Stock Account	80	0	0
„ Value of Drape Cows transferred to Feeding Stock Account	56	0	0
„ Value of Food Residues	24	0	0
„ Valuation of Cows at end of year	420	0	0
	<u>£830</u>	<u>0</u>	<u>0</u>

STORE STOCK ACCOUNT.

DR.	£	s.	d.
To Valuation of Store Stock at beginning of year	620	0	0
„ Manual Labour during year	40	0	0
„ Horse Labour during year	3	0	0
„ Rent and Rates	10	0	0
„ Establishment Expenses	3	0	0
„ Grazing	60	0	0
„ Home-grown Foods consumed	30	0	0
„ Purchased Foods consumed	48	0	0
„ Value of Calves transferred from Breeding Stock Account	80	0	0
<i>Net Profit on Store Stock</i>	36	0	0
	<u>£930</u>	<u>0</u>	<u>0</u>

CR.	£	s.	d.
By Value of Heifers transferred to Breeding Stock Account	60	0	0
„ Value of Steers transferred to Feeding Stock Account	224	0	0
„ Value of Food Residues	16	0	0
„ Valuation of Store Stock at end of year	630	0	0
	<u>£930</u>	<u>0</u>	<u>0</u>

FEEDING STOCK ACCOUNT.

DR.	£	s.	d.
To Value of Drape Cows transferred from Breeding Stock Account	56	0	0
„ Value of Steers transferred from Store Stock Account	224	0	0
„ Manual Labour during year	30	0	0
„ Horse Labour during year	1	10	0
„ Rent and Rates	10	0	0
„ Establishment Expenses	1	0	0
„ Homegrown Foods consumed	38	0	0
„ Purchased Foods consumed	70	0	0
„ <i>Net Profit on Feeding Stock</i>	13	0	0
	<u>£443</u>	<u>10</u>	<u>0</u>
CR.	£	s.	d.
By Sale of Fat Cows	80	0	0
„ Sale of Fat Steers	340	0	0
„ Value of Food Residues	23	10	0
	<u>£443</u>	<u>10</u>	<u>0</u>

No mention has yet been made of a “Horse Account.” Where horses are bred an account must be opened for “young horses,” which will be charged with all expenses from the time of foaling until the time when the young horses are sold, or added to the working teams, and the account will be balanced as an ordinary live stock account to find the profit or loss. Where only *working* horses are kept, the horse account is one of the subsidiary or auxiliary accounts to which passing reference has been made, and the method of dealing with it will be set out later.

Land Accounts. Only two land accounts are required on the ordinary farm, namely an “Arable Land Account” and a “Meadow Land Account.” In special cases there may be accounts under such headings as “Orchards,” “Hops,” “Market Gardening,” “Osiers,” &c.

The *Arable Land* must be treated as a whole. Arthur Young recommended a ledger account for each field. This involves an enormous amount of useless work as will be obvious when it is remembered that the arable land is managed on a *rotation*, and that many of the operations carried out apparently for the growing of one particular crop are in reality for the benefit of the whole rotation. Thus, the turnip crops may cost anything up to 7*l.* per acre, whilst in an abundant season the roots themselves may not be worth more than 30*s.* or 2*l.* To produce a profit and loss account for the turnip fields showing a loss of 5*l.* an acre would be absurd and the explanation of the apparent loss is, of course, the fact that a great part of the cost of cleaning the land for the turnip crop should be spread over the whole rotation. All the arable land must therefore be dealt with in one account.

At the beginning of the year, whether it be Michaelmas or Lady Day, the Arable Land Account is *debited* with (*a*) cultivations done, seed sown and manures applied during the previous year for the coming year's crops, (*b*) unexhausted manures and food residues from the previous year. During the year the account must also be charged with (*c*) all manual and horse labour expended upon the land in cultivations and cleanings, and in sowing, securing and marketing the crops (*d*) the cost of seed corn and other seeds sown, (*e*) residues of foods consumed by stock on the land during the year, (*f*) rent and rates (*g*) depreciation of implements and (*h*) establishment expenses, and any other payments such as hedging, &c. The *credits* of this account will be (*a*) the proceeds of corn and other crops sold, (*b*) the value of corn fed to the stock on the farm, (*c*) the consuming value of seeds—hay and straw, (*d*) the mangolds grown, at their value on the farm, (*e*) fallow crops fed, at their letting value in the district, (*f*) seeds grazed, at their value, (*g*) manures and food residues unexhausted at the end of the year, (*h*) cultivations done, seed sown and manures applied during the year for the crops of the succeeding year. This account, with many of the items summarised, will appear somewhat as follows, and its balance represents the true profit or loss on this branch of the farming:—

ARABLE LAND ACCOUNT.

DR.	£	s.	d.
To Valuation of Cultivations, Crops, &c., at beginning of year	350	0	0
„ Valuation of Food Residues	33	0	0
„ Manual Labour during year	400	0	0
„ Horse Labour during year	410	0	0
„ Seed	75	0	0
„ Rent and Rates	460	0	0
„ Depreciation of Implements	30	0	0
„ Establishment Expenses	6	0	0
<i>Net Profit on Arable Land</i>	346	10	0
	<u>£2,110</u>	<u>10</u>	<u>0</u>
CR.	£	s.	d.
By Corn sold	1,120	0	0
„ Corn fed	155	0	0
„ Seeds—hay and straw fed	100	0	0
„ Mangolds	36	0	0
„ Fallow crops fed	200	0	0
„ Seeds grazed	100	0	0
„ Unexhausted Manures (food residues)	49	10	0
„ Valuation of Cultivations, Crops, &c., at end of year	350	0	0
	<u>£2,110</u>	<u>10</u>	<u>0</u>

The *meadow land* is treated practically in the same way as is the arable land. The account is *debited* at the beginning of the year with (*a*) any food residues or manures unexhausted in

In addition to the ordinary weekly labour sheet with the work done by all the men which constitutes the pay-sheet, their time is entered on separate sheets, headed with the names of the various accounts for which they may have been working. Where a man spends a day doing various jobs, his name will, of course, appear under two or more headings.¹ These labour sheets when filled in appear as follows :—

LABOUR SHEET.

Arable Land Account.

Week ending October 31, 1908.

NAME.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	No. of Days.	Rate per Day.		Rate per Week.		TOTAL.		
									s.	d.	s.	d.	£	s.	d.
J. Smith ...		1	1	1	1	1	1	6			18	0		18	0
W. Vear ...		1	1	1	1	1	1	6			18	0		18	0
T. Watkins ...		1	1	1	1	1	1	6			18	0		18	0
F. Goy ...		1	1	1		1	1	5	2	6				12	6
H. Tuplin ...		1	1	1	1	1	1	6	2	6				15	0
													£	4	1 6
Horses employed		10	10	10	8	10	10	58							

LABOUR SHEET.

Sheep-Breeding Flock Account.

Week ending October 31, 1908.

NAME.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	No. of Days.	Rate per Day.		Rate per Week.		TOTAL.		
									s.	d.	s.	d.	£	s.	d.
P. Johnson ...	1	1	1	1	1	1	1	7			21	0	1	1	0
A. Johnson ...	1	1	1	1	1	1	1	7	1	6				10	6
F. Traves ...		1	1	1	1	1	1	6	2	6				15	0
W. Sharpe ...		1	1	1	1	1	1	6	2	6				15	0
F. Goy ...					1			1	2	6				2	6
													£	3	4 0
Horses employed					2			2							

¹ It is not practicable to divide a man's time into anything less than quarters of a day.

The number of horses employed by the men is entered at the bottom of each sheet. It will be seen presently that some such record of the horse labour is essential.

The advantage of these sheets is that the labour is analysed straight away daily. They can be kept by any farm foreman and on a large farm the trouble saved to the farmer in analysing his labour sheet at the end of each week is considerable. They are easily filed and need be totalled up only at the end of the year, thus reducing the entries for "labour" in each account, to one only.

For *Horse* labour it is essential to open a ledger account. This account can be treated in one of two ways. Some figure may be taken as representing the value of a horse's day and each account may then be charged with the value of horse work done for it as calculated on this basis. At the same time, the "Horse account" in the ledger is *credited* with these sums and *debited* with expenses. When the account is balanced at the end of the year a profit or loss on the horses is arrived at. Seeing, however, that horses are usually kept on the farm to do work, and not as a direct source of gain, it is not desirable to show a profit or a loss on them. The best course is to ascertain in the first place exactly what the cost of the horse labour on the farm is. To do this the ledger account is *debited* with (*a*) the valuation of horses and harness, &c., at the beginning of the year (*b*) the cost of food consumed during the year (*c*) the cost of shoeing (*d*) repairs to harness (*e*) rent and rates (*f*) establishment expenditure and any other expenses. It is *credited* with the valuation of the horses and harness at the end of the year, and the balance of the account represents the total cost of the horse labour on the farm. This cost is then shared out over the various accounts in proportion to the number of days of horse labour performed for each. The number of days is got in a few moments from the labour sheets and the apportionment is quite easily made. The Horse account appears thus:—

HORSE LABOUR ACCOUNT.

Dr.	£	s.	d.
To Valuation of Horses at beginning year	600	0	0
„ Valuation of Harness, &c., at beginning of year	50	0	0
„ Home-grown foods consumed during year	350	0	0
„ Grazing	49	0	0
„ Shoeing	22	0	0
„ Repairs to Harness	15	0	0
„ Rent and Rates	12	0	0
„ Two 3-year old colts purchased	110	0	0
„ Establishment Expenses	3	0	0
	<u>£1,211</u>	<u>0</u>	<u>0</u>

CR.	£	s.	d.
By Valuation of Horses at end of year	688	0	0
„ Valuation of Harness, &c., at end of year	48	0	0
<i>Net Cost of Horse Labour</i>	475	0	0
	£	s.	d.
Apportionment :—Cattle Accounts	19	10	0
Sheep Accounts	8	0	0
Arable Land	410	0	0
Meadow Land	32	0	0
Grazing	4	0	0
Establishment	1	10	0
	£475	0	0
	£1,211	0	0

Rent and Rates.—These require no ledger account. *Rates* are readily apportioned between land and buildings by taking the figures in the demand note. The rates on land must then be shared over arable, meadow, and pasture land, whilst rates on buildings must be divided over the different classes of stock using them.

The *Rent* must also be apportioned in the same way, remembering to deduct from it the value of the farm-house, which must be charged to a “Private Account” or a “House Account.” Some such account will be found necessary in all farm book-keeping for the accommodation of certain items of purely personal expenditure which are apt to creep into the farm accounts.

It must be admitted that the apportionment of rent constitutes a rather serious difficulty in the system of accounts here advocated. The item is a considerable one and a careless division of it may produce fictitious balances. It is a difficulty, however, which presents itself in all businesses, and as it is tackled and overcome by the manufacturer there is no reason to suppose that the farmer should not be equal to the task.

Grazing.—No profit or loss is made on the pasture land. Its produce is not directly marketable and should be regarded merely as a food to be paid for. To arrive at the cost of this food a ledger account must be opened under the heading of “Grazing,” which is *debited* at the beginning of the year with (a) the value of any manures or food residues unexhausted in the previous year. During the year it must be debited further with (b) any labour, such as harrowing, rolling, &c., (c) manures applied and manurial residues of foods fed during the year, (d) rent and rates. The only *credit* will be the value of the manures and manurial residues unexhausted at the end of the year, and the balance of the account represents the cost of the grazing. This cost is then shared out over the various live stock accounts just as was

the horse labour. To simplify the apportionment, one beast may be taken as the equivalent of six to eight sheep.

Purchased Foods and Manures.—It will save a great deal of work to charge foods and manures purchased straight away to the accounts that are to use them. Thus nitrate of soda and basic slag can be charged direct to the "Arable Land Account" and the "Grazing Account" respectively, and it will often be possible to charge foods in the same way. When, however, there is one store for the foods purchased for all classes of live stock, this cannot be done and a ledger account must be opened under the heading of "Purchased Foods and Manures." This account is then *debited* with foods and manures purchased, and *credited* from time to time with foods consumed and manures applied. Simultaneously the various stock accounts will be *debited* with what they eat, and the land accounts with the manures they receive. The balance of the account at the end of the year should represent the value of stores unconsumed, and is carried forward to the debit of the year following.

Implements.—These, too, require a ledger account, which must be *debited* at the beginning of the year with (a) the valuation of implements on hand. During the year it must further be charged with (b) repairs, (c) cost of new implements. The account is *credited* with the value of implements on hand at the end of the year, and the balance of the account represents the cost of the implements for the year. The common way to arrive at the valuation of the implements at the end of the year is to deduct a certain percentage from the valuation at the beginning of the year, and then add the cost of any new implements. This method is inaccurate and therefore objectionable. The proper course is to prepare an inventory and valuation of the implements on the farm and then to estimate the life of each implement. By dividing the years of life into the value, the annual depreciation is arrived at. The inventory may conveniently be set out thus :—

Implement	Valuation in 1906			Estimated Life	Annual Depreciation			Valuation in 1907			Valuation in 1908, etc.		
	£	s.	d.	Years.	£	s.	d.	£	s.	d.	£	s.	d.
Cart	20	0	0	20	1	0	0	19	0	0	18	0	0
Water cart	10	0	0	15	13	0	0	9	7	0	8	14	0
Corn drill	7	10	0	20	7	6	0	7	2	6	6	15	0
Iron plough	3	10	0	25	3	0	0	3	7	0	3	4	0
Seed harrows	2	10	0	25	2	0	0	2	8	0	2	6	0
Binder	30	0	0	10	3	0	0	27	0	0	24	0	0
Mower	10	0	0	15	13	0	0	9	7	0	8	14	0
Roller	12	0	0	25	10	0	0	11	10	0	11	0	0
Totals	—			—	6	8	6	89	1	6	82	13	0

New implements are added to the list as they are bought and the worn-out ones are struck off. Some things, such as rollers, ploughs, harrows, &c., are never worn completely out, but always have a certain value however ancient they may be. These may be depreciated on a twenty-five years principle for say twenty years, after which they will be brought forward each year at the same figure. Thus, a set of seed harrows worth 50s. in 1906 would be depreciated at the rate of 2s. per annum until the year 1926 when their value in the books would stand at 10s., and at this figure they would be carried forward in the succeeding years without further depreciation.

The Implement Account being one of the auxiliary accounts, its balance does not go directly to "Profit and Loss," but is apportioned to the other accounts after the manner of the balances of "Horse" and "Grazing" accounts already described. This apportionment is apt to be troublesome but with a little consideration it may be accomplished. Thus it will be obvious that the depreciation of ploughs, harrows, binders, reapers, &c., should be charged to the arable land; that on cake breakers, root cutters, &c., to the stock and so on. Depreciation on carts, waggon, &c., which are used for all manner of purposes, can either be charged to the "Horse Account" thereby increasing the cost of the horse labour or it may be carried to the Establishment Account, which is, perhaps, the preferable arrangement. The labour of apportionment is reduced by grouping the various implements in the inventory as far as possible under such headings as "arable land," "live stock," &c.

Dung.—Under this head a ledger account must be opened in order to get at the value of the manure. This account would be *debited* with the consuming value of all straw used for litter and with the value of the residues of foods consumed in the yards. There is nothing with which to credit this account; the balance represents the cost of the dung and this is shared between the meadow land and the arable land in proportion to the number of loads applied to each.

Establishment.—Repeated reference has been made to the "Establishment Account." This is not usually met with in the ordinary forms of farm book-keeping, but in any attempt to keep accurate accounts it will be found that certain payments have to be made which cannot with fairness be placed against any of the accounts already dealt with. The foreman's wages, repairs to farm roads, travelling expenses, keep of nag-horse and other matters have to be debited to an "Establishment Expenses Account." It is an auxiliary account, and the balance must be shared out over the other accounts in some way or another. The simplest method of apportionment is to share

the balance of the Establishment Account over all the other accounts in proportion to their turnover—going on the assumption that the account with the largest turnover has probably benefited to the greatest extent by the establishment expenditure. This is, of course, only an approximation and to reduce any error to a minimum the account must be kept as small as possible; that is to say, nothing must be charged to it that can by any means be placed direct against any of the other accounts.

It may not be out of place to refer to one or two criticisms which have been brought against this system of farm book-keeping, and perhaps the writer may first of all emphasise the point that this article is merely suggestive in its intention. So long as the principle of “costs” and “net profits” is adhered to, the accounts can be developed in a variety of ways other than that adopted here by way of illustration. It has been objected that there are so many *estimations* of values as to make the results shown by the various accounts quite unreliable. If this were so the system would stand condemned, for the results would not justify the labour entailed; but there is no reason why the estimations and apportionments should be so far wrong. The only point where a serious error might be introduced is in the apportionment of rent, but this problem has to be faced and it may be solved with reasonable accuracy. With regard to the prices at which live stock is transferred from one account to another, the farmer is so constantly attending markets, fairs, &c., that he should have no difficulty in assigning a fair value to his own stock.

Objection has also been made against the annual valuation on the grounds that market fluctuations might considerably affect the values of stock which there is no intention of selling, thereby producing fictitious profits or losses. This is a matter of opinion. Some people like an annual valuation at current market prices because it admits of the true financial position on a certain date being shown, but it is by no means an absolute necessity in the keeping of these accounts. Thus, for breeding flocks and herds which are carried on from year to year, a fair average value per head can be adopted and the stock carried forward each year on this basis regardless of current market prices. The rest of the live stock can be carried forward at the close of the year *at their cost*, as shown by their various accounts, and the profit or loss will then only appear when subsequently the stock is sold.

The commonest objection, however, is on the score of the work entailed. It is said that no farmer could be expected to plunge into such a maze of figures. That a

farmer on any considerable scale would have to employ a clerk to keep his books for him and so forth. Now why should the farmer regard himself as exempt from the ordinary rules of business? If a manufacturer be asked the net cost at the factory of the article he produces he can state it at once; ask him what percentage he must add to pay the expenses of the counting-house and his answer is ready. But how many farmers can state the cost of producing a stone of beef, or the cost of a horse per day, or the cost per ton of the dung on the farm? Why is it that they alone of all business men can get along without a knowledge of costs? Surely it would be of the greatest service to them, and if they cannot or will not devote the necessary time and trouble to get at it, is it unreasonable to suggest that they should employ book-keepers? What right has a person with say 5,000*l.* in his business and an annual turnover running possibly into larger figures still, to expect to conduct his business without a clerk, and keep his books by memoranda on the backs of envelopes? Is there any other class of men in business who would dare to attempt it? Surely the question requires no argument and when the agriculturist begins to realise what a mine of information his books should be to him, he will not begrudge either the time or the expense which may be involved in keeping them, and he will find that a new interest has been added to his already absorbing occupation.

C. S. ORWIN.

Estate Office, Panton, Wragby.

THE REPORT OF LORD REAY'S COMMITTEE ON AGRICULTURAL EDUCATION.¹

LORD CARRINGTON, President of the Board of Agriculture, on March 20, 1907, appointed a Departmental Committee "to inquire as to the provision which has now been made for affording scientific and technical instruction in agriculture in England and Wales, and to report whether, in view of the practical results which have already been obtained, the existing facilities for the purpose are satisfactory and sufficient, and, if not, in what manner they may with advantage be modified or extended." The Committee were fortunate in having Lord Reay as Chairman. His knowledge of educational problems, and his experience of the conduct of Commissions

¹ Report [Cd. 4206] and Minutes of Evidence [Cd. 4207]. Wyman & Sons, price 9*d.* and 5*s.* 3*d.* respectively.

and Committees, proved invaluable. The names of my other colleagues were such as to guarantee a full and impartial inquiry, and to command respect for their recommendations. They were :—Lord Barnard, Lord Belper, Lord Moreton, Mr. F. D. Acland, M.P., Mr. David Davies, M.P., Mr. H. S. Staveley-Hill, M.P., Professor T. H. Middleton, of the Board of Agriculture, Professor William Somerville, Mr. Thomas Latham, and Mr. J. C. Medd.

The Committee held sittings on thirty-one days to receive evidence, and on twenty other days to consider their Report. They examined 113 witnesses and asked over 16,000 questions. They received innumerable pamphlets and publications of every description. Their unanimous Report extends to thirty-nine closely printed folio pages. The early determination of the Committee that their inquiry should be comprehensive and exhaustive was thus undeniably realised.

It will be observed that the terms of reference were limited in two important respects. First, the inquiry was confined to England and Wales. At the outset I expressed the opinion that from both the English and the Scottish point of view it was regrettable that the terms of reference did not include the whole of Great Britain. Nothing that has since transpired has altered that opinion. Secondly, education of an elementary or secondary character did not come within the scope of the inquiry. Although what may be called “rural” in contradistinction to “agricultural” education was not strictly within the Committee’s terms of reference, yet many witnesses alluded to it. Much interesting and valuable evidence on such questions as nature study, “rural bias,” and school-gardens was received; and there can be little doubt that the almost unanimous opinion expressed by witnesses that elementary and secondary schools should always provide a general and not a specialised education, had much influence with the Committee. Mr. Medd deals with the question of rural schools in his supplementary memorandum, but the only mention of rural education in the Report of the Committee is as follows :—“Nothing in our system of education should hinder any lad from seeking his life’s work upon the land. On the contrary, all that is possible should be done to show him how, by the application of skilled knowledge, agriculture holds out the prospect of not only an interesting but a profitable career. A complete system of technical agricultural education is, therefore, the natural corollary to the vast sums spent on elementary education in the rural parts of the country.” With this exception the Report is confined to questions connected with the provision of instruction in agriculture, and in allied subjects, to persons generally above school age.

BRIEF HISTORICAL SKETCH.

Although considerable space is devoted in this Report to setting out the important stages in the history of the progress of agricultural education, it is unnecessary here to review this chapter at any length. It is interesting, however, to note that among the earliest dates mentioned is 1840, as being the year in which the Royal Agricultural Society of England was incorporated by Royal Charter. The Committee later acknowledge the educational work of the Society, which since 1868 has held examinations in the science and practice of agriculture. But to trace the origin of the present provision of agricultural instruction one need go back only twenty years. In 1887, a Committee, presided over by the late Sir R. H. Paget, inquired into "Agricultural and Dairy Schools which might properly receive Government grants, and to advise as to the Department which should be charged with the administration of such grants."

At that time the only Agricultural Colleges in England were those at Cirencester, Downton, Aspatria, and Hollesley Bay; while the Worleston Dairy School had lately been established in Cheshire.

From the publication of the Paget Report¹ dates the present system. In the estimates for the year 1888-89 the Agricultural Department of the Privy Council were provided with a sum of 5,000*l.* for giving effect to such of the recommendations of the Committee as might be adopted by the Government.

This was the first sum set apart by Parliament for the promotion of definite agricultural education. In 1890, the Local Taxation (Customs and Excise) Act was passed under which the Residue Grant provided County Councils with a source of income distinctly applicable to agricultural education.

Readers of this *Journal* will be familiar with the methods by which these two authorities—the Privy Council and subsequently the Board of Agriculture, on the one hand, and the County Councils on the other—have increased the provision of agricultural education. Many counties from the first appointed itinerant instructors, who, by means of lectures, demonstrations, and personal advice have been the real pioneers of subsequent work. It is important to remember that such work has until within the last two or three years been carried out entirely at the expense of the counties without any financial assistance whatever from any Government Department. The work has, however, been

¹ C.—5285 and C.—5313.

regularly inspected by the Board of Agriculture. Other counties, such as Cheshire, established an Agricultural College through which the whole of their work, migratory as well as collegiate, has since been conducted. Others, such as many in Wales and in the North and East of England, devoted money to the establishment and support of an agricultural department in an existing institution. The Board of Agriculture have, from the passing of the 1890 Act, confined their grants to the support of permanent institutions. For many years the only institutions eligible for grants from the Board of Agriculture were those connected with two or more counties, but more recently grants have been made to institutions such as the Colleges at Holmes Chapel and Uckfield acting for only one county.

The story of how the twenty institutions now in receipt of grants from the Board came into the scheme of agricultural education is admirably told in a memorandum prepared for the Committee by their Secretary, Mr. A. E. Brooke-Hunt, and published as an appendix. As these institutions are familiar to most agriculturists, it is needless to particularise them here. Suffice it to say that their work has, year by year, expanded and developed, and that, speaking generally, the number of students attending them has steadily grown. Unfortunately the Board of Agriculture have not in the last few years been able to increase the amount of their grants in proportion to the increasing cost of these institutions. This difficulty has been accentuated by the fact that, since the Education Act of 1902 has come into full operation, the money at the disposal of County Councils for purposes of technical education has been partly diverted into other channels, thus depriving the institutions of any prospect of additional grants from that source. Indeed, so keenly have county councils felt the want of money in the last three or four years that the amount spent by them on agricultural education, whether through permanent institutions or in connection with their own staff of instructors, has, taken in the aggregate, become less year by year. Instead of the work expanding with the demand for instruction, it has only too often been reduced.

This short sketch will serve to show some of the difficulties attending the provision of agricultural education at the time of the appointment of the Committee. On all sides there was an appeal for further funds, but Lord Carrington wisely decided that, before approaching the Treasury, it was advisable to appoint a Committee to review the past twenty years and to weigh the results achieved.

With this introduction we may proceed to examine the findings of the Committee.

The Committee recorded with pleasure that, whereas in 1887 there were only some four or five institutions engaged in providing courses of instruction in agriculture, they had heard evidence from at least twenty-four institutions actively engaged at the present time in providing higher agricultural instruction. During the twenty years, therefore, which have elapsed since the Paget Committee made its Report, the whole aspect of agricultural education in the country has changed and the foundations of a national system have been laid.

ATTITUDE OF AGRICULTURISTS TOWARDS AGRICULTURAL EDUCATION.

By their terms of reference the Committee were to consider "the practical results" obtained, and a chapter dealing with this important question is placed in the forefront of their Report. "The evidence shows in an unmistakable manner that the attitude of farmers on the subject has undergone, or is undergoing, a change." It will be obvious to every one who studies the Report that the standard by which every class or system of instruction was judged was that of "results obtained." "However useful," says the Report, "agriculture may be as a subject of instruction in schools and colleges, it is obvious that unless the farmer recognises the value of scientific knowledge to himself, as of assistance in the management of his land or of his stock, the nation is not likely to derive much direct benefit from expenditure upon technical education in agriculture." That farmers in this country have begun to recognise the value of scientific knowledge to themselves was acknowledged by many farmers and land agents. The fact that opposite opinions were expressed by others coming, for the most part, from parts of the country affording few or no opportunities for coming into personal contact with agricultural teachers of the first rank, seems to me to localise, not to negative, this favourable testimony.

Before considering further the appreciation shown in Britain of existing facilities for agricultural instruction, it will be advisable to summarise that part of the Report dealing with the attitude of agriculturists in other countries.

COMPARISON WITH OTHER COUNTRIES.

No branch of the inquiry was so interesting, and no section of the Report will so well repay careful study, as that devoted to agricultural education in other countries. The countries especially mentioned are those from which it was considered that Britain had something to learn. They were Denmark, Ireland, Germany, Holland, and the United States of America.

If only agriculturists in England and Wales, who are convinced of the value of agricultural education, will study for themselves the description given by Professor Campbell of the admirable system created in Ireland by the Department of which he is Assistant Secretary, the demand for similar advantages in this country will become imperative. In Ireland, the Department of Agriculture realised that the first need was to provide for the training of men to become teachers and specialists. This they did by the addition of an Agricultural Department to the Royal College of Science, Dublin, there being no local university colleges, as in Great Britain, which could undertake the teaching of agriculture. Their second step was to provide a first-rate agricultural college (Glasnevin) to act as a stepping-stone for men desirous of entering the Royal College of Science, and also to educate future land agents, as well as the sons of well-to-do farmers intending to manage their own farms. Next, they provided three provincial institutions where young men can attend a course of agriculture extending over one year, and the provision of others is contemplated. The fourth step was to establish winter schools where the sons of farmers could obtain technical training during the winter months. "Twenty-eight of these schools," said Professor Campbell, "were in operation last year in twelve counties." He then went on to describe what his Department had done and proposed to do with regard to institutions for women, a school of forestry, and other schemes, showing that in Ireland the system of education in agriculture, costing some 83,000*l.* a year, is graduated and complete. Professor Campbell's evidence I regard as the most valuable which the Committee received, and to it readers should refer for further information on the Irish system. One of our witnesses—a lady—complained that "she had never been educated, but only brought up in Ireland." Under Professor Campbell's régime such a misfortune will become a matter for sincere congratulation.

The Committee did not receive verbal evidence direct from the United States, Germany, Holland, or Denmark, but were fortunate in having among their own members several who had visited and made a study of agricultural education in one or more of the countries mentioned. In addition, they had placed before them a considerable amount of literature dealing with this branch of the subject. It appears that in the United States much dissatisfaction was expressed with the results obtained from agricultural education after the establishment of the Land Grant Colleges, owing to the fact that the teachers and students depended, for the subject matter of courses in agricultural science, chiefly on the results of research conducted in

Germany. But as soon as the experiment stations, from which we receive to-day such important bulletins, had been established and had set to work to discover facts applicable to the agricultural conditions of America, a striking change in the attitude of the farmers was observed. Here, then, is a point to be noted. To win the confidence of farmers in America the teacher had to provide him, not with broad general principles, but with direct information which he could put to the test on his own farm and find to be accurate.

In Germany also there was, at first, a marked indifference on the part of the agriculturist towards agricultural education, but the State "provided a supply of scientific facts and a system of knowledge precisely adapted to the special needs of the German agriculturist. He, finding teachers he could trust and information that interested him, has abandoned his former attitude of indifference."

"Denmark," says the Report, "may be quoted as a State in which the problem of reaching the farmer no longer really exists. The desire for knowledge existing in Denmark has made the task of the teacher an easy one. This desire for knowledge is not a marked attribute of the agricultural classes in England, and in providing agricultural education for this country the greatest stress should be laid on all means calculated to arouse a demand for information." Here, then, we arrive at the real problem of agricultural education in this country. How is this desire for knowledge to be aroused? We have seen how the success that has attended agricultural education in Germany and in the United States was achieved. Is it unreasonable to hope that similar efforts in this country would meet with similar success? On the contrary, the Committee had overwhelming evidence of the practical appreciation by farmers of the experimental work conducted in various parts of this country. "Round those institutions," states the Report, "at which experimental work has been properly conducted, numbers of farmers may be found keenly interested in the new facts which each year brings to light."

EXPERIMENTAL AND RESEARCH WORK.

It must be remembered that the Committee's terms of reference did not permit them to make inquiries into the economic value of research. Their inquiry was limited to the relation of research to education. This relation was clearly demonstrated by Mr. E. S. Beaven, of Warminster. Asked if a possible explanation of the farmers' apparent lack of appreciation of instruction was that teachers in this country had not the necessary material at their disposal with which to instruct him, he replied, "You have not sufficiently good

matter to offer the intelligent agriculturist—the large grower, at any rate. No doubt the small cultivator can be taught how to use manures and such like things by means merely of demonstrations, but we have arrived at a point where, at any rate, the larger growers, who are responsible for the main part of the agricultural produce of the country, are now fully acquainted with facts with regard to such subjects.”

The Committee, after considering very carefully this question of research, decided that “it would be unwise to develop any extensive system for providing instruction in agriculture in Great Britain without at the same time providing for research.” In 1887 the Paget Committee recommended that an annual grant-in-aid of 3,000*l.* should be placed at the disposal of the Government Agricultural Department to be expended in investigation. Even if the grants of 200*l.* paid by the Board of Agriculture in respect of the farms attached to collegiate centres be included, the total grant in aid of research has never reached the sum recommended twenty years ago. The statement on this subject made by the Assistant Secretary to the Board in the last annual report¹ has, therefore, been welcomed as an indication that this branch of the Department’s activities is to be extended in the future. “I wish,” he said, “to urge the importance of these special grants (for experiments and research) and to suggest that much larger sums should be expended by the Board in promoting research on agricultural problems. Apart from the economic value of such research, its effect on agricultural education would justify the expenditure.”

Passing from original research to the less exacting but scarcely less important work of field experiments or demonstrations, the Report says: “It was frequently stated by those giving evidence that farmers took more interest in experiments than in any other class of work undertaken by the colleges, and the Committee agree that the teacher has no better means of getting into close touch with the farmer than by laying out for his inspection a series of experimental plots designed to elucidate some local question.” The Report emphasises the need for better organisation in connection with these minor experiments and suggests that the results of the more important experiments should be summarised at regular intervals, and published in the *Journal of the Board of Agriculture*. This suggestion has already been adopted by the Board. It continues, “In view of the large sums spent upon experiments, and of the important influence which they ought to have upon agriculture, the Committee are of opinion that the Board of Agriculture should give very special attention to

¹ Cd. 3908; page vii.

collating the results, comparing them with the results of similar work conducted in other countries and extracting and publishing such facts as may have a direct bearing on the practice of agriculture in this country." There can be little doubt if this were done, and done well, the educational value of such experimental work would be greatly increased.

We may now consider the various types of institutions providing agricultural instruction.

INSTITUTIONS OF THE HIGHEST GRADE.

The most advanced type of agricultural institution is the agricultural department of a university or university college, and the next is the agricultural college. The essential difference between these two grades is that whereas at the latter institution instruction is given only in agriculture and allied subjects, at a university or university college, side by side with the agricultural department, are departments dealing with every branch of education.

The Committee emphasised the value and importance to agriculture of universities and university colleges, and noted "with satisfaction that agriculture has now received recognition in all the leading universities in this country," To those who remember the attitude of the universities some thirty years ago towards "utilitarian education," it must be a matter for congratulation that no less than five universities and five university colleges sent representatives to explain to the Committee their existing or projected agricultural work.

Particularly pleasing to hear was the evidence respecting the agricultural developments brought about during the past sixteen years at the University of Cambridge. The agricultural department has been fortunate in its benefactors. It has been equally fortunate in its staff. Indeed, the importance of the results of recent research conducted at Cambridge has been so great, and so widely recognised, as to overshadow the very real value of the more purely educational work. Still further developments are in prospect. When these are effected, the great University, many of whose colleges are themselves large owners of land, and educate a high proportion of the sons of our landed classes, will occupy the first place, not only in research, but in the practical training of future land-owners and land agents for their very responsible duties.

The Committee welcomed the prospect of instruction in agriculture being provided in the Universities of Manchester and Birmingham, and recommended that "in view of the strong support now given to agricultural education by the University of Oxford, the State should make an annual grant

to the University similar to that made to other universities with fully-equipped agricultural departments." The Committee considered that, when these developments have been carried out, when the Royal Agricultural College at Cirencester has become a public institution, when an agricultural college has been established in Devonshire under the Seale Hayne bequest, and when the college at Aspatria has been placed on a permanent footing, "the number of institutions providing higher instruction in agriculture will probably be sufficient. Most of the institutions, however, have been but recently founded, and are not yet fully developed. Future expenditure on higher education should provide for the better equipment of existing institutions rather than for any increase in their number."

Every one interested in educational progress agrees that, although much depends upon efficient organisation, the most important factor of all is the teacher. This is especially true with regard to agricultural education. Much of the prejudice created in early days was the result of the ignorance of agriculture as a business observed by agriculturists in teachers and lecturers. One witness gave an amusing instance:—"We had one professor come to our place some years ago, and he had a meeting in the village, and he told the men who kept pigs that the manure from them was of no value; he would give them a recipe by which they would be able to put their fingers into their waistcoat pocket and take out sufficient manure to put on their allotments, and somebody called out, 'Yes; and you would be able to put your fingers in the other pocket and take out the produce.'" The serious aspect of this incident is that such a lecture would retard the progress of agricultural education in that neighbourhood for half a generation. A contrast to this story is the remark of Professor Middleton when describing the agricultural department of Cambridge University. Having referred to the use made of the University farm for instructing students, he continued, "We use the farm for demonstrating to farmers, and these demonstrations we find most useful. It is by means of them that we have got into close contact with the farmers in the Eastern Counties. They come there in large numbers now. Last year we had about 600, and we could easily have had more if we could have taken them. When farmers come they see what is being done, and as our system is that each person is responsible for some particular work, each one is a specialist in some particular business. The farmer finds that there is someone on the farm who knows about some one part of agriculture more than he does himself, and many farmers come there to learn."

On this important question of the efficiency of the teachers the Committee summarised their conclusions as follows :—"In developing the existing facilities attention should be first given to securing a highly qualified staff. Many institutions employ too few teachers, or relegate the teaching of important subjects to junior members of the staff. It is of special importance that high qualifications should be secured in the teachers of such subjects as agriculture, agricultural chemistry, and agricultural botany. The staff of the higher institutions should include men who are not only capable teachers of, but recognised authorities on, these subjects. Further developments in agricultural education will be difficult until a greater supply of well-qualified teachers is available. This subject demands the serious consideration of the Board of Agriculture."

LESS ADVANCED AGRICULTURAL INSTITUTIONS.

While the Committee found that the number of higher institutions affording instruction in agriculture is now nearly sufficient, they stated that "the facilities for agricultural instruction of a lower grade are unorganised, unsystematic, and wholly inadequate. Very few institutions giving instruction of this grade exist, and if satisfactory provision is to be made their number must be materially increased." This state of affairs may be regarded as inevitable. In England, as in Ireland, a beginning had to be made at the top, and it is apparent that if twenty lower grade institutions were founded within twelve months from now it would be found impossible to staff them efficiently.

The section of the Committee's Report, which has met with most criticism is that dealing with the best type of institution to provide instruction for "the rank and file of young farmers." As in many cases this criticism seems based on an inaccurate idea of the Committee's actual recommendations, this opportunity of explaining them is welcome.

Abroad may be found two types of schools for this class of student. There is, first, the secondary agricultural school, or practical school of agriculture, attended by students of from fourteen to sixteen or seventeen years of age, where general education is given in continuation of that provided in primary schools, together with theoretical and practical instruction in agriculture. The course extends over usually two and occasionally three years, half the day being spent in manual labour on the farm attached to the school. The second type of school is known on the Continent as the Winter Agricultural School. As the name implies, these schools are open only for six months of the year, but in many of them

there is a definite second year's course. The students attending these winter schools are over sixteen years of age and have all been at work on the land during the summer months; it has consequently been found unnecessary to provide any but theoretical instruction. The essential difference between these two types of schools is that in the former the lad returns to his home at the age of seventeen or eighteen, having never engaged in practical farming, because his education from the elementary school has been continuous; while in the case of the winter school the lad's education is not continuous, for, on leaving the elementary school, he returns to work on his father's farm, except for the winter months.

The Committee considered that the type of institution best adapted to the needs of this country is the winter school. They recommended that "in the course of the next ten years from fifty to sixty of these schools should be provided in England and Wales." The reasons for this preference are fully given in the Report, but one or two of the more important may be indicated here. This can best be done by the following quotation:—

"It has been represented to the Committee that if a lad once leaves school and begins farming it is difficult to get him to return. This is an undoubted difficulty, but on the other hand it must be pointed out that the longer a boy's entrance on agricultural life is delayed, the greater is the risk that he may forsake agriculture for some other occupation. Attention must also be directed to the great advantage which the agriculturist derives from beginning to learn his business at an early age.

"There is a further point of some importance in comparing practical schools with winter schools. At the former the pupils, in order to gain experience, must spend half their time in manual work. To this, British parents might object on the grounds that if their children were engaged in unskilled manual labour, they would be better employed assisting in farm work at home."

The instruction suggested at these proposed winter schools closely resembles that given with striking success at the short courses held at our university and agricultural colleges. Again, four county councils, viz., those of Bedfordshire, Cumberland, Hampshire and Essex, have already established institutions providing courses very similar to those held at the less advanced winter schools on the Continent. Doubtless a continuous course of schooling may have proved successful elsewhere, but it must be remembered that there is not, in all countries, that constant gravitation towards the

towns which, in an old, densely populated, and industrial country like this, creates the danger that the prolonged separation of a lad from the land may terminate in a permanent divorce. In Prussia, Denmark, Holland, and Canada, where serious attention has been given to the instruction of the agriculturist, the importance of practical training, before technical instruction is attempted, has been clearly demonstrated, so much so, indeed, that at Guelph, perhaps the first agricultural college in the world, no student is now admitted who has not had practical experience on a farm.

MIGRATORY AND ADVISORY WORK.

Instruction in agriculture, horticulture, dairying, poultry keeping, farm hygiene, farriery, and mammal agricultural processes such as hedging and thatching, has been provided by means of lectures, demonstrations, and visits of advice by instructors employed direct by county councils as well as by members of the staff at agricultural institutions. With regard to such work, the Committee considered that, while itinerant instructors should in the future play a much more important part in the system of agricultural education in this country than hitherto, yet the continuance of casual classes in the subjects mentioned is undesirable. "While much good has been accomplished by some itinerant teachers, the Committee cannot but feel that as a whole the work has suffered from want of system. Classes have been held at irregular intervals often by persons who have come to and left the district as strangers, whose lack of local knowledge has discredited their teaching, and who have produced no effect on the methods of cultivation pursued in farm and garden." "Local authorities," the Report continues, "should be encouraged to concentrate their attention upon obtaining a permanent staff of teachers. If funds are small they should prefer one permanent to several temporary teachers . . . To stimulate local authorities to provide capable teachers, the Committee think that grants-in-aid should be made by the Board of Agriculture." With a view to the better organisation of this class of work and in order to ensure that the practical skill of these permanent instructors shall be maintained, it is urged that, in districts where "there is no suitable institution with which the county instructors could be associated, farm institutes should be established to serve as headquarters for the entire itinerant staff." A farm institute in every county is therefore recommended in order "to give definiteness of aim and stability to county work." Attached to each institute would be a farm laid out as typical of the district, the general

aim being "to place before farmers and gardeners an object lesson for guidance in their work and to stimulate them to improve their methods of cultivation."

It would be very unwise for a committee sitting in London to attempt to work out a scheme suitable for every part of the country. No such attempt is made by this Committee, but the following is a broad outline of the system of agricultural instruction which they recommend:--In each large district or agricultural province, comprising several counties, there would be an agricultural department to a university or university college. This would provide the highest form of agricultural education in the district, would be definitely connected with every agricultural institution and every county in its area, and would exercise scientific supervision over every type of agricultural instruction and over every experiment conducted in the locality. There would also be one or more agricultural colleges in the province; and in each county, or group of two counties, there could be a farm-institute at which the local instructors would have their headquarters. These instructors would, during the winter months, conduct a winter school (in most cases held in the institute itself) and provide lectures at different centres in the county or counties with which they were connected. In the summer months, when the students at the winter school had returned to their farms, the instructors would visit farmers and gardeners, making a special effort to keep in touch with those who had passed through the winter school. In dairying districts, a three months' summer dairy school might, as in Denmark, very usefully be held. Such a system as this, of which we already have the nucleus in many parts of the country, would prove, if assisted by means of carefully graded scholarships, of immense value to agriculture.

DAIRYING.

It is probably in instruction in dairying, as well as in the practice of dairy-farming, that Britain has most to learn from some of her foreign competitors. Excellent work is being done by milk-record societies, but they are far too few. The Report notes with satisfaction the great increase both in the facilities, and in the demand, for instruction in this subject since the days of the Paget Committee; but at present this country, in the matter of dairy-research, has to rely largely upon foreign sources. Dairy-institutes are giving good instruction in the treatment of milk, and in the making of butter and cheese. Some of them, however, buy their milk, instead of themselves keeping cows, thus failing to attach due importance to the breeding and rearing of dairy-cattle, with a view to increase the yield and quality of milk. In the improvement of methods of milking,

moreover, and in the sanitary distribution of milk, there is a wide field for investigation and instruction.

If small holdings are ever to become thoroughly successful on an extensive scale, it can only be through co-operative dairy-farming. The early provision of satisfactory instruction in this subject throughout England and Wales is therefore especially urgent.

CONTROL.

The authority to be entrusted with carrying into effect the system above described remains to be considered. As regards the Local Authority, the Committee recommend that, in each county, agricultural education should, on behalf of the county council, be in charge of representatives of agricultural interests. Lord Fitzmaurice, in his evidence, described how, in Wiltshire, by re-appointing the members of the agricultural education committee to be the statutory committees for the Fertilisers and Feeding Stuffs Act, the Diseases of Animals Acts, and the Small Holdings Act, the county council have succeeded in consolidating their agricultural work; and indicated the advantages that would accrue if legislation were passed to make such an arrangement statutory. This is a valuable suggestion, and the Committee lay stress "on the expediency of there being in every county a special committee to organise and to supervise agricultural education."

As regards the Central Authority, the opinion of the Committee as to the Department by which agricultural education should be controlled is expressed in much detail. The reason for this is that they had, for more than the length of an average day's sitting, listened to interesting and lucid evidence from an Assistant Secretary to the Board of Education—evidence, for the most part, designed to show that the work of agricultural education should be placed under his department.

Now in Scotland agricultural education is already controlled by the Scotch Education Department, and if this plan were generally regarded with satisfaction, it would supply a strong argument in favour of the adoption of a similar arrangement in England. But Mr. Munro-Ferguson, M.P., addressing, from the chair, the Scottish Chamber of Agriculture at Edinburgh, on October 14, 1908, expressed no satisfaction. Far from it, he suggested the creation of "a joint standing Committee between the Board of Agriculture and the Scotch Education Department. At present they were absolutely dependent," he said, "upon a Department which might be excused for mistaking a 'neep for a docken.' Sir Thomas Elliott and his staff might be able to temper the purely theoretical and scientific control (of the Education Department) with a little practical

knowledge of things bucolic. *Better still, they might perhaps take its place in the administration of Agricultural Education in Scotland.*"¹

At the present time agricultural education in England and Wales, so far as supported by the State, consists of (i.) the instruction given at the twenty institutions subsidised by the Board of Agriculture; (ii.) some two or three institutions, notably the Swanley Horticultural College and the Worcester Dairy Institute, earning grants from the Board of Education; and (iii.) the work, chiefly of a migratory character, which, until three or four years ago, was conducted by county councils without financial assistance from any Department of the State, but has recently been assisted in certain counties by grants from the Board of Education. There is thus a certain amount of overlapping between the operations of these two Departments; and it will not be wondered that the Committee recommend that "in the interests both of efficiency and of economy the respective spheres of influence of the two Departments should be defined." During the last two or three years, indeed, five of the twenty institutions first mentioned have, in addition to receiving a grant-in-aid from the Board of Agriculture, earned grants from the Board of Education.

The Committee carefully considered this question and the report contains convincing arguments in support of their conclusion. It will suffice here to quote the paragraph wherein the Committee summarise their recommendation on this matter. "Since complete co-operation between the Boards of Agriculture and Education is essential, if the field of education is to be adequately covered and overlapping avoided, the Committee are of opinion that agricultural instruction, when provided by universities, university colleges, agricultural colleges, farm institutes, and winter schools, or by means of special classes or courses of lectures in agricultural and kindred subjects should be under the direction of the Board of Agriculture; while all instruction in agricultural subjects forming part of courses of primary, secondary, or such evening schools as are in definite continuation of the education given in primary schools, should be under the Board of Education."

Since the publication of the Committee's Report a memorandum² which, not without justice, has been described as a "counterblast," has been issued by the Board of Education. This is not the place for a detailed criticism of this singular document, but it is safe to predict that its somewhat ostentatious dangling of the money bags of the Board of Education before the eyes of county councils and of

¹ *Scotsman*, October 15, 1908.

² Cd. 4271.

institutions providing agricultural education is not calculated to diminish overlapping during the next few years. It would be interesting, moreover, to know what county councillors and farmers, who have concerned themselves for some years in the promotion of agricultural education, think of its main argument that it is *since* the passing of the Education Act of 1902 that instruction in agriculture had progressed! Either all the landowners, land-agents, farmers, county councillors, and county education officials were mistaken, who complained to the Committee of the deplorable effect which that Act has had upon agricultural education, by diverting the "whisky-money" to the training of elementary school teachers, or else the memorandum in question is the outcome of a really surprising misapprehension of the facts of the case.

FINANCE.

It is clear that, to carry out the recommendations of the Committee, additional funds must be forthcoming. Much evidence was given to the effect that it is idle at the present time to expect any material increase in the sums devoted to agricultural education by county councils. The Committee therefore recommend that the amount at the disposal of the Board of Agriculture for this purpose should be largely augmented. Unless this recommendation is adopted by the Government very few of our suggestions for the improvement of agricultural education can be carried into effect. Agriculturists throughout the country must, therefore, not merely accord a tacit approval to the Report, they must raise their voices and demand its adoption. In Ireland, in Canada, in the United States, and in many countries of Europe, where agriculturists have realised the importance of agricultural education, they have required and have obtained its adequate support by the State. In Britain agricultural education has been starved. Full financial provision must henceforth be made. The Board of Agriculture alone cannot obtain this grant. Agriculturally-minded Members of Parliament are few and silent. Even were they numerous and vocal, their speeches unaided would not avail to effect a breach in the walls of the Treasury. It is for agriculturists themselves, in their Societies, and in their Chambers, in their journals, and in public meetings, to raise a demand so insistent that it cannot be denied.

NORMAN LAMONT.

House of Commons,
London, S.W.

MILCH COWS AND THE PRODUCTION OF STORE STOCK.

THE cattle industry in England tends to divide itself into three divisions which are all, though constantly over-lapping and to a certain extent intermingling, more or less separate from one another. The men dealing with these three divisions of stock may be briefly described as breeders, feeders, and milk-producers.

From two of these groups we have had, during the last few years, a unanimous cry against the re-opening of the question, which Mr. Walter Long sought to close for ever by statute, of the admission of colonial or foreign store stock. That this should be so is obviously logical from the point of view of the breeding community, *i.e.*, of those owning pedigree as well as store stock-producing cattle.

The cow-keeping farmer is almost as logical in his opposition as is the breeder. He has a large amount of money invested in animals which, owing to their highly developed milking systems are more or less bound to be delicate, which animals have for a great part of the year to be housed under conditions which almost ensure that any contagious disease imported from abroad should run a rapid and terrible course. It is true that the milk-producer has not specimen stock, such as are owned by some pedigree breeders, which have not only a high monetary value, but also an individuality representing a lifetime's work impossible to replace. But, on the other hand, the milch cow owner has a great deal to lose from the point of view of commercial "goodwill," for, in the event of an epidemic destroying his cattle, the contracts or customers on his milk walk may be lost, never to be regained. This state of things, so well known that words would only be wasted in giving more emphasis to the position, leads to an outburst of indignation, almost unagricultural in its unanimity, from breeder and milk-producer, whenever the question of altering the *status quo* arises.

The feeder does not, nor can he altogether be expected to, look upon the prohibition of imports with the same enthusiasm. He is a manufacturer of an article that is not a monopoly, his beef has to meet foreign competition on far harder terms than has the milk produced by his cow-keeping *confrère*. He has no direct regard for the individual animals which are essential

to the upkeep of the supply of breeding stock which we send out to foreigners from our National Stud Farm. It is essential to his business that he be supplied with a sufficiency of stock suitable to his purpose and it matters little to him who breeds them, provided that they are good and at a price that allows of his selling them when fat at a profit. Finally, he does not run the risk of quite such terrible results if contagious disease appears. His beasts, animal for animal, are not quite so valuable; the stock is on his hands a comparatively short time and, compared with the housing of milch cows, his yards and boxes are not quite so favourable to the spread of disease. This being so, it is not surprising when, to use the words of a correspondent who writes with the authority of an expert "*there is no doubt whatever that the store cattle stock of this country is not what it ought to be,*" that we find feeders, singly and collectively pointing out the hardship to which they are subjected, by the exclusion from our shores, of Canadian or other suitable store stock. It must undeniably be a hardship to the feeder, for experience has shown that economic conditions make it possible for the English producer's rivals to raise good "stores" in their homes and sell them profitably in our markets far cheaper than it can ever possibly be done by the British farmer.

This hardship, it must at once be admitted, is a necessary evil, if grave risk of the importation of disease is to be avoided. But, as a hardship to one part of our population is necessary for the general welfare, extra attention should be given so as to avoid injustice, and the object of this article is to draw attention to a state of affairs which cannot be held to be altogether equitable.

A long course of observation while studying the markets, in which the feeder has to make his selection of store cattle, has made many besides the writer aware that much is offered for sale of *so bad a quality* as to constitute an injustice to the man on whom an Act of Parliament forces so limited a choice.

The fact of oversea stores being kept out of our markets limits the number of cattle on offer, but it is most unfair that, even unwittingly, the breeder should take advantage of this fact and callously force on buyers so-called feeding or grazing stores that are quite unsuitable for the purpose. This is, however, only too often done and there is no doubt that much of the trash the feeder is compelled to buy is the product of that class of cow-keeper who only looks on the calf as an evil necessary to the continuance of profit in his milk-making machine—the cow. Nobody having acquaintance with many, and friendship with some of them, would accuse the milk-producers as a class of willingly being unjust, nevertheless,

many do so behave from callousness, carelessness or the mistaken notion that their own and feeders' requirements are in total opposition to one another.

There are, in the six eastern counties alone some 110,000 milk-producing cows, eighty per cent. of which may be looked upon as wanted by their owners for milk production only. Possibly some twenty per cent. of these are merely bought in with the object of selling out fat when dry and so may be ignored, and the economic waste that this practice may entail will, through the advancing price of large deep-milking cows, be likely to correct itself. The remaining 88,000 cows will probably produce some 85,000 marketable calves and it is from



among these and tens of thousands of similar stock, from all over England and from certain parts of Scotland and Wales, that we get eventually a very large proportion of our "stores." Amongst them is a percentage whose want of quality baffles description.

We give here an illustration of one of these from life and it suffices to say that she is as narrow as she is shallow. A large number of countings on the market has led us to believe that such real, though not "rotten," wasters are produced in great quantity from among "Home-breds." We have found them at the rate of 1:8 in the eastern and south-eastern counties.

Remembering the position of the feeder, forced to buy stores which, though not all bad, in many cases do not come up to his necessary standard of quality, *because the outside supply is forbidden* him by law, no thinking man can deny that the cow-keeper who is callous or careless about the supply of calves he sends to market, is guilty of the gravest injustice.

On the other hand, the position of the man who wants to keep up a supply of home-bred heifers that will grow into deep-milking cows, who believes that he cannot do this and yet have bull calves suitable for the feeder, cannot be held to be an unjust one. He has his own furrow to plough, and his own lot is not so good that he can afford to make it worse for the sake of others, even though they may be in a worse plight than himself.

It is, however, the object of this article to show that the breeder of dairy cattle is mistaken, and to prove that he may have large-framed cows, of milking capacity far greater than the average found at present among dairy herds, that will either in themselves, when they are dry, or through their male offspring, supply material with which no reasonable feeder can for a moment find fault.

Such an animal is spoken of as the "dual-purpose" cow, and we will now proceed to discuss it.

THE DUAL-PURPOSE COW IN THEORY.

It is well to consider those points which are, or should be, present in the milch cow, so as to be able to contrast them with those the feeder would like to see in the store he wants to graze or for winter feeding.

A milch cow should be long and symmetrical in frame, that is to say, the distances from head to chine, from chine to hook, and from hook to pinbone should be lengthy in themselves while proportioned to one another, and all three joined up so as to knit together into one elegant yet substantial whole. Her frame or skeleton should, in order to allow of plenty of room for the development of her vital organs, be roomy as well as long.

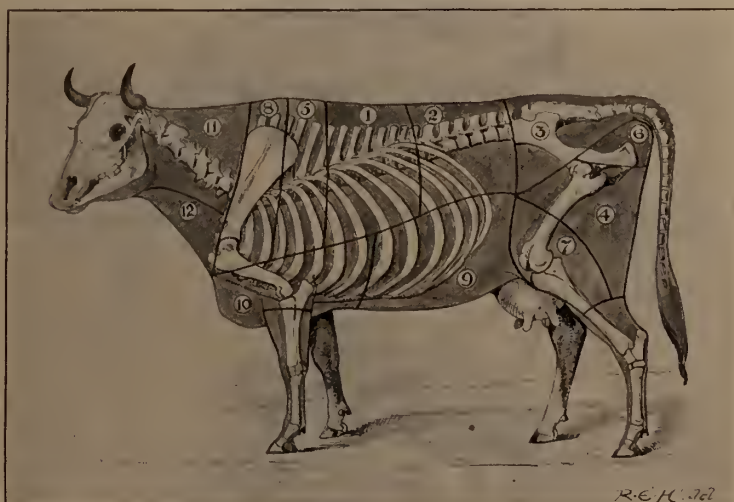
Restricting an examination to the frame or skeleton, let us see how these requirements coincide with those for beef production.

The well-laid shoulder which gives the length to the fore end of a milch cow is undesirable in the beef animal, for it gives an undue amount of space on which to carry those cuts (see Plate I.), numbered (11), (8), and (12), which are cheap and inferior meat.

Length of middle and of quarter is, however, as desirable in a beef animal as in the milch cow.

So essential to a capacious udder is length from hook to pinbone found to be by dairymen, that milch cows are, on the whole, better in this respect at the "quarter" than pure beef animals. The quarter is formed by a large bone (see (A) (A), Plate II.,) which, in order to enable it to accommodate a large amount of muscle is cup-shaped on its outer surface. Now it is from muscle carried by this cup-shaped bone that the butcher cuts the rump steak ((a) (a) (a) (a) (a), Plate II.). It is hardly necessary to point out that muscle and lean meat are the same thing. The rump is one of the four first-quality cuts ((3) Plate I.) so that, in her length of frame, the milch cow

PLATE I.



KEY TO PLATE I.

- | | |
|--|--|
| (1) Fore rib (7 ribs), first quality. | (8) Blade bone or chuck (2 ribs), third quality. |
| (2) Loin (including first or wing rib), first quality. | (9) Thin flank, third quality. |
| (3) Rump, first quality. | (10) Brisket, third quality. |
| (4) Round, first quality. | (11) Sticking or neck, fourth quality. |
| (5) Mid rib (3 ribs), second quality. | (12) The clod, fourth quality. |
| (6) Aitch bone, second quality. | Shin (forearm), fourth quality. |
| (7) Thick flank, second quality. | Leg (hock), fourth quality. |

atones for the faultiness of the fore end of her body by being extra long at her quarter.

Turning now to the shape of frame other than length, we may state that all parties are agreed in wishing for great depth.

On days when trade is slack the enterprising dealer may often be heard at the market announcing, to all and sundry, that the stores he has for sale are of those that have backs upon which "the snow can lie." This somewhat crude

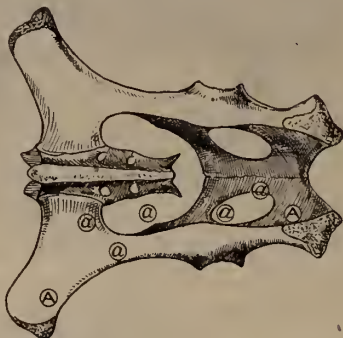
announcement merely indicates graphically that width of back which he knows purchasers of feeding cattle require. Examining the skeleton, we find that this width of back is obtained through the ribs and other lateral processes coming out with a long sweep horizontally from the spinal column. It will be seen from the illustration (Plate III.) what happens when this formation of bone is present.

The spring of rib makes (see line A B Fig. 1, and C D Fig. 2 in Plate III.) one side of a rectangular figure—which

PLATE II.



Side view of hip bone or pelvis, showing: A, A, line of quarter; a, a, a, a, a, area containing rump steak.

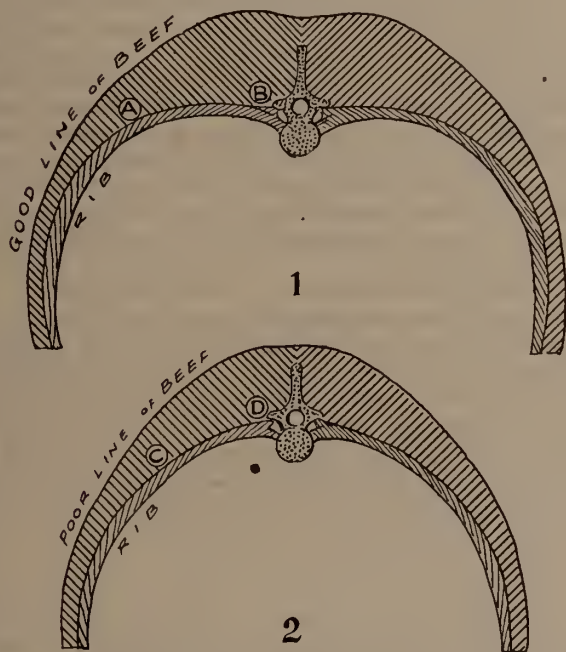


View from the top or dorsal surface of hip bone of ox, showing horizontal area of rump steak. Letters as in upper fig.

under the shoulder blade becomes almost triangular—one other side is formed by the ridge of the spine. The rectangle, which runs from the hook to immediately behind the shoulder blade, is filled in by a mass of muscle which forms the lean meat in the joints (1) (2) and (5), Plate I. If the rib is well sprung and the “process” at loin lengthy, as is the case with a “wide” animal, the line A B Fig. 1 Plate III. is such as to make the rectangle in question a long one and consequently to allow room for good joints. This is the reason why the feeder wants width all the way along. In the milch cow, if

we are to have room inside the body for the huge organs of digestion, essential to the process of converting rough fodder into milk, as well as ample space for calf development, the loin should be wide and the "fore" ribs well sprung, thus agreeing with the requirements of the "feeder," for these parts of the frame carry the joints which are most valuable as far as meat is concerned. On the other hand, the milch-cow's chine, that is the area over and immediately behind the shoulders, should be fine, and in this respect she must fail as a breeder of feeding animals. But these parts only carry,

PLATE III.



Section at (1) on full size figure of ox, showing: 1, a good line of beef; and 2, a poor line of beef.

as will be seen by studying the figure, the inferior and consequently cheaper joints.

We have seen that in the frame, or skeleton, there are slight differences of structure in the two classes of animals, which differences, however, are on that part of the skeleton which does not carry the best butcher's joints. We have now to consider the question from another point of view.

The feeder wants, when he buys a "store," an animal with suitable frame, but further he must have this frame covered

with *thick* muscle. His business is to feed so as to keep the muscular system nourished while he covers it and interlard it with fat. The great difference between his work and the milk producer's is that one wants the food turned into prime meat, *i.e.*, muscle and an adequate admixture of fat on the back of the animal, the other wishes the food to come away in a somewhat similar mixture in the form of milk.

Does the fact that an animal has the faculty of turning food into milk make it impossible for her, either in her own body when dry or through her male offspring when they are steered, to divert, so to speak, the milk-forming stream and make it turn into the more substantial material—beef? In certain "butter-making" breeds the diversion from milk to beef may be said to be impossible. In the case of animals wanted as pail-fillers or milch cows it is, on the other hand, quite possible; though it must be at once conceded that they will never be quite as thick fleshed as in the case of the pure beef breeds. These cows will fail in flesh more especially at the "round" and "thick-flank" ((4) and (7) Plate I.). To show how very nearly beef and milk may be combined in the same animal, we will now proceed to the consideration of

THE DUAL-PURPOSE COW IN PRACTICE.

Very many stock-owners will think it superfluous to take up space proving that the dual-purpose cow is to be met with in great numbers. Nevertheless very many agriculturists of the present day hold the contrary opinion so strongly as to make it desirable that an effort should be made to bring evidence to establish the point beyond any reasonable doubt. The possibility and desirability of breeding for both milk and beef in the same strain is no new question, for we find Sir John Sinclair writing as follows in 1802:—

"Whether a particular breed ought to be kept up for that sole purpose," (the dairy) "or whether it is preferable to have stock partly calculated for the butcher and partly for the dairy, is a point well entitled to the most deliberate discussion. It is probable that, by great attention, a breed might be reared, the males of which might be well calculated, in every respect, for the shambles, and the females that might, when young, produce abundant quantities of milk, yet, when they reached eight or nine years of age, be easily fattened. This would be the most valuable breed that could be propagated in any country, and indeed some of the best English and Scotch breeds have almost reached that point of perfection."¹

"Deliberate discussion" on the part of thinking men cannot fail to bring out the fact that, with our supply of stores

¹ *Essays on Agriculture, Farming, Breeding and Fattening Cattle, and Longevity*, by Sir John Sinclair, Bart., page 73, 2nd Edition. Printed by A. Strahan, New Street Square, for T. Cadell & W. Davies in the Strand, and C. & J. Offor, Tower Hill.

limited to those produced in Great Britain, the dairy farmers have a great duty to perform towards the man whose living depends so largely upon having animals "well calculated in every respect for the shambles." In order to show that these may be bred from stock "that produce abundant quantities of milk," the following instances from fact, and opinions of practical men, are here brought to the notice of those who doubt the possibility of the "perfection" Sir John Sinclair wrote about one hundred years ago :—

SHORTHORN BULLS ON NON-PEDIGREE COWS.

The writer's own personal experience enables him to vouch for the following facts and figures :—On a thin-chalk soil farm attached to the Wye College, a herd of deep-milking non-pedigree Shorthorn cows was kept for some years. Pedigree Shorthorn bulls of milking strains were used. The bull calves were reared and fed as steers, and almost invariably made top prices in the Ashford Market. The following figures are given from records taken at the time :—Milk yields from some dozen to fourteen cows, plus two or three first-calf heifers. In 1899 (a very droughty year with practically no yield of grass from June to October), 570 gallons ; 1900, 750 gallons ; 1901, 666 gallons. Produce of above : 1899, three steers sold under two years of age at 22*l.* 10*s.*, weighing 11 cwt. 3 qrs. 8*lb.* each. One of these was out of a 1,000-gallon cow, and they were all "finished" on under 10 *lb.* of cake and corn, with a very limited supply of roots and hay. 1900, a heifer seventeen months old, weighed 11 cwt. 16 *lb.* She had been reared on whole milk, which was far from being the case with the other beasts here mentioned. On going to the local show she was highly commended in a large mixed class of heifers under two years, and made the best Christmas market price. 1903, two steers, moderately fat, weighed 13 cwt. at about twenty-eight months old.

An inquiry for some particulars, *re* an article in a back number of the Live Stock Journal Annual, brought a long and interesting letter from Mr. R. E. Turnbull, from which the following is quoted :—

"Yes, I reared a large number of calves when I was farming in Holderness early in the eighties. You will find full particulars of the farm that I occupied in the Journal of the R.A.S.E., Part II., 1883. I bought a large number of Shorthorn cows and heifers in Cumberland—chiefly in the Lake districts. Those I selected were deep in frame, wide-backed animals that gave an abundant supply of milk. Bullock calves bred from these cows come early to maturity when properly reared, and were in great demand for grazing purposes. I usually sold my bullock calves (in good store condition, say 52 up to 54 per cent.) when from twelve to fifteen months old. Early in the eighties they realised about 1*l.* on the average for each month—twelve-months-old calves 12*l.* . . . Store cattle were very dear at that time. I should think that

40s. to 42s. 6d. per cwt., live weight, was market price. . . . Cows and heifers averaged 730 gallons a year—some of them were Ayrshire and Ayrshire-Shorthorns. I occasionally met with Blue-Grey cows. . . . The calves of the Cumberland Shorthorns were more valuable. . . . They could nearly always be relied upon to grow into good bullocks for beef purposes, or into good heifers for the production of milk.”

That the calves he writes about were good, their gain of half a hundredweight, live weight, per month shows, particularly when the economical, if careful and skilful, method of feeding is allowed for. This system is described in the afore-mentioned article. Mr. Turnbull concludes a long and very interesting letter by saying “*A well-bred bull is very important.*”

Mr. William Nunnerley, Kenwick, Ellesmere, Salop, from the far west of the West-Midlands, writes :—

“We, in this district, aim at breeding a good Shorthorn cross, *i.e.*, not a full pedigree animal, chiefly using pedigree bulls on so-called ‘cross-bred cows’—meaning a cow without a full pedigree. Many cattle making excellent milkers, and also good fatteners, are bred. I have reared for both, and sold to the butcher when nineteen to twenty months old at 20*l.* to 25*l.* each, whilst from the same dams have made dairy cows giving as much as 60 to 70 lb. of milk a day.”

Mr. Nunnerley says later in a long and interesting letter, which we wish it were possible to reproduce in full : “I always consider we are much indebted to our pure-breeders.”

In the most eastern part of England we find that the same has been done, for Mr. Fred. C. Paine, farm manager to the executors of Colonel H. McCalmont, Crockfords, Newmarket, Cambs., says :—

“It is difficult, but quite possible, to combine milk with beef. When I was farming some 3,000 acres for the late Richard Garrett, of Leiston, East Suffolk, I bred some hundreds of good steers, selling up to 27*l.* each as ‘stores’ at two and a half years old for feeding purposes, from real deep milking cows; keeping back the heifer calves, which themselves in time became valuable as milk producers. I was careful always to go to Birmingham and get good pure Shorthorn bulls. These bulls were the only pedigree stock used. I kept this practice up for ten years.”

PEDIGREE SHORTHORNS.

Of pedigree Shorthorns, Mr. George Taylor, of Cranford, near Hounslow, writes me quite recently as follows :—

“My experience is that there is no animal that will put on flesh quicker than the pure-bred, or well-bred, deep-milking dairy cow, and especially the cow that does not get poor, when in profit gives very poor milk. . . . In the early eighties I had a very deep-milking cow barren, and we tried to get her in-calf and could not. This cow won first prizes as a dairy heifer and cow, we grazed her the summer, and showed her at a Christmas Fat Stock Show, when she won first prize and made forty-seven guineas at the auction in the afternoon. At my 1904 sale (May 17), *Waterloo Cranford*, red, calved August 13, 1899, was sold as in-calf for 105 guineas, and turned out barren. I took her back, we tried physic, starving her, keeping her in the dark, and veterinary with instruments, till middle of September, gave her

three months' grazing, and sent her to Christmas Fat Show; she won second prize—people said she ought to have been first. I sold her by weight, and she weighed 138 stone of 8 lb., and the butcher said it was the best quality beef he had—better flesh than Angus or cross-bred steers and heifers. This cow calved on July 11, 1902, and was milked 525 days, and gave 1,204 gallons of milk. . . . My old stock bull, *Beau Sabreur*, is sire of heifers and cows that have won first prizes as dairy cows, and firsts in milking competitions, and also of prize steers and bulls."

In a recent communication, Mr. F. B. Punchard gives me, amongst others, the two following instances of the dual-purpose animal:—

"*Moss Rose 2nd*, a very handsome red pedigree cow, gave 720 gallons, at one calving had three calves (one a bull sold to Mr. R. W. Hobbs, Kelmscott, for three figures), and was then sold at the Christmas Fat Stock Show at Kendal for 19l. 15s. *Forever* 83517, used in herd for three years, and then sold to Mr. Thomas Walker, Templand, Grange-over-Sands, who reports that he is doing very well, and weighs over 22 cwt. live weight. He is the sire of many beautiful milkers, and has won prizes himself at shows."

Pure-bred stock bred by Mr. John D. Maxted at Lower Garrington, Littlebourne, Kent, has been known to the writer for some years, and here winners at the local fat stock shows have been bred from good milkers. Of his first prize winner at the Ashford Fat Stock Show this month (December, 1908), his son, Mr. Jack Maxted, tells me "her dam is a roan Shorthorn cow, *Beauty*, she has been a good milker, having brought up five calves and then been milked between calving and calving. The sire of the winning heifer was a red Shorthorn bull of a good milking strain, one of J. T. Hobbs' breeding."

An article entitled "Manufacture of Meat," in the *Live Stock Journal* of April 13, 1882, tells us that Mr. Stratton's Smithfield Champion was grandson of a famous dairy cow. On applying to that gentleman we received a reply which would certainly be published in its entirety were it not that the most urgent considerations of space strictly limits us to the following quotations:—

"But the point you want to illustrate, I understand, is that ample production of milk can be combined with good grazing properties. I have had half a century's experience of cattle breeding, have always been associated with a large dairy herd as well as with pedigree Shorthorns, and I have no hesitation whatever in asserting that the best of graziers may be bred from first-class dairy cattle. It has been so proved to demonstration by my father (who always kept a herd of good dairy Shorthorns) in the records of the Smithfield Club and the Birmingham Fat Stock Show; and my own records at those shows in the seventies afford similar proof. But the question is whether the dairyman can venture to use pedigree bulls without impairing the milking properties of his herd. I have no hesitation in saying that he can, but of course discretion must be exercised, and careful selection—the injudicious use of a bull from a non-milking family would undoubtedly have a disastrous effect, but there are plenty of pure-bred Shorthorns from which bulls may be selected that would improve the grazing properties of an ordinary dairy herd enormously without in the slightest degree injuring the milking capabilities."

Mr. Stratton, towards the end of this letter, which would be well described as an instructive essay, writes :—

“To imagine that a non-milking race of cattle is essential for the production of the best graziers is perfectly ridiculous.”

At Babraham, Mr. Adeane's cow, *Lady Crystal Bates*, shows by her breeding how, while substance and weight is not neglected, milk may be kept up. Her record is as follows :—First calf, 560 gallons; second calf, 680 gallons; third calf, 880 gallons; and if we look into her pedigree we find a g.g. grandsire making 55*l.* to the butcher (weight 22 cwt. 2 qrs.). A generation later *Lord Somerset* weighed 17 cwt. at two years old; and of *Crystal Count*, sire of the cow we are discussing, Mr. F. N. Webb writes :—

“This bull was sold by Messrs. Chalk & Sons, auctioneers, in the Cattle Market at Cambridge, to kill, on August 12, 1900, and made 29*l.* 10*s.* I find we had stock got by *Crystal Count*, born as late as March 15, 1901, and that he was used as late as June, 1900. As we had a lot of unregistered cows too at that time, this bull was probably used almost up to the time he was sold, and was not specially fattened up for market.”

To look at the matter the other way round, *Priceless Princess*, of the same herd, was, as a co-judge at a show once said to the writer, “unimprovable in any particular.” In her lifetime the whole show world knew of her milk, quality, and flesh. Her dam, *Princess Raglan*, gave 750 gallons every year for four years.

LINCOLN RED SHORT-HORNS.

The writer saw one of Mr. John Evens' famous Lincoln Reds win in a small but strong mixed class at the Christmas Fat Stock Show at Lincoln in December, 1906. Upon inquiry it was found that this heifer was *Whitefoot 7th*, aged three and a half years, and that she was sold for 30*l.* 10*s.* for beef. Also that her sire, *Burton Red*, Herd Book 2131, was out of a cow that, to quote her owner, “has yielded over 5,000 gallons of milk after her five calves,” that her dam was another Whitefoot, “a fine old cow whose g. dam, *Whitefoot 1st*, was first in the ‘Royal’ Milk Tests in 1898 and 1899.”

From the same herd, *Missey*, after winning many prizes, was in 1903 second at the same Christmas Fat Stock Show, and being seven years old made 28*l.* for beef. Her sire, *Professor*, Herd Book 200, was “from a grand dairy cow that averaged over 900 gallons of milk per year.” This bull, *Professor*, weighed 23 cwt. when sold fat for 28*l.* 15*s.* at six years old, *Missey's* dam, *Pride*, averaged 1,210 gallons of milk per calf after her six calves.

RED POLLS.

One example of the dual-purpose cow belonging to this breed, and that a very notable one, is Sir Walter Corbet's *Linda 3rd*. Besides producing 6,000 gallons of milk in six years, she is the dam of two Smithfield cup winners; one is a heifer, *Acton Dairy Maid*, which at two years five months and twenty-seven days old weighed 16 cwt. 2 qrs. 24 lb., and the other, a steer, *Acton Comet*, weighing 15 cwt. 3 qrs. 18 lb., at two years seven months and nine days old.

WELSH CATTLE.

Professor T. Winter writes me in connection with this breed, which he has shown so successfully for the University College of North Wales, Bangor :—

"Ours is essentially a dairy herd. At the Smithfield Show, in 1906, the heaviest steer under two years old was a Welsh bullock shown by us. He was second in his class (as at Birmingham) and weighed 14 cwt. 3 qrs. 4 lb. His dam *Madryn Rose*, one of the best milkers we have—she gives five gallons a day when in full milk. The two Welsh steers I showed at Smithfield last year (1907) which were third and fourth in their class, were bred from two sisters, both good at the pail."

CROSS-BREDS.

Mr. Colin Campbell tells me that the dam of Mr. Hudson's champion heifer *Danesfield Rose* was *Black Lady*, a Shorthorn Angus cross. "*Black Lady*," he writes, "was a very good dairy cow, and gave a quantity of milk of good quality." *Danesfield Rose*, with Championships and prizes at Birmingham and prizes at Smithfield, earned 100*l.* in prize-money this Christmas, and weighed 13 cwt. 2 qrs. 15 lb. at twenty-three months and thirteen days old.

SUGGESTIONS FOR THE FUTURE.

The possibility of breeding both for milk and beef being admitted, and the waste caused by not doing so being obvious, there remains only to suggest some practical way of reducing the number of unsuitable store stock, and of replacing them by a supply better suited to the feeders' requirements.

That something might be done by agricultural societies in the east and south-east of England, and in some other parts, seems certain, for in these districts we have none of those classes for store beasts found in so many of the small shows in the north. Prize-money does undoubtedly arouse interest, and it might be arranged so that classes for home-bred stores, the property of bona fide tenant farmers, should become a popular feature in the programme of every local exhibition. We believe that in the north-east of Scotland few classes, at any rate among the horned stock exhibits, give proof of greater vitality than those above indicated. Again, when competitions

for non-pedigree milch cows are held, there might be a condition—with adequate instructions to the judge—that suitability for producing useful store cattle as well as pail-filling capabilities, should be considered when awarding premiums. This condition might also apply to competitions for herds of dairy cows held, alas! so seldom, by our agricultural societies. Finally, the dairy and cow-keeping associations might have classes at our national shows for fat stock bred from parents having a good *record for milk*.

Tests and trials at the experimental stations might be carried out—as is, we may mention, suggested in the aforesaid letter from Mr. R. Stratton—in England as in the United States. It is worthy of note that at these American trials the purely “beef” breeds did not show to very vast advantage over the “general utility” animals.¹ All these suggestions for encouraging the improvement are, however, merely foolish vapourings if great attention be not given to the next consideration, viz.—

THE BULL USED.

It is indubitable that, as a nation, we have every right to be proud of having the very best sires, but that this does not prevent our using the very worst will be obvious to any one who will take the trouble to study our own commercial markets, and visit those of other parts of the world.

Any male calf that has been too long overlooked by the castrator, and that is not quite good enough to warrant the risk of a late operation to alter him, is sure to find a ready purchaser in some cow-keeping farmer anxious only for an animal to use as a sire at the lowest possible price. It does not seem to matter whether he has milk points or beef points, or, as is most often the case, no points at all, as long as the immediate outlay in cash is small. Such stock may be seen in any of our southern or south-eastern markets, and it is unreasonable to hope for a good supply of store stock while a large proportion of those we breed are begotten by these shallow, narrow, bony brutes, which, had they been deprived of their powers of procreation, would never have earned any one but a drover a shilling towards profit in their lives. If any despot could ordain that only suitable pure-bred bulls might be used on the cows that are kept to supply our population with milk, the battle would be more than half over, and the cry from the feeder for the opening of our ports would lose very much of its volume.

The many objections to the pure-bred sire may be briefly answered. On the score of expense, five shillings a head on

¹ Henry's *Feeds and Feeding*, page 372. Value of breed in beef making.

the get of an average bull will repay the 15*l.* or 20*l.* that may have to be laid out on his original cost over and above the price, say 10*l.*, of the mongrel that we urge he should replace. Any cow-keeper who has once got a reputation for using nothing but well-bred and well-selected sires, will find little difficulty in selling his calves on a contract that will repay the cost with 100 per cent. interest. Many of those who are noted for the deep-milking cows they keep (amongst them Messrs. Hobbs, of Kelmscott, and Messrs. Robinson, of Iford, Lewes), have such contracts at two guineas, or over, for each male calf out of their non-pedigree cows by pedigree bulls.



Store Heifer out of a very bony Milch Cow by a pure-bred Aberdeen Bull.

Others say that where a purely "beef" bull is used on commercial cows, the calf is so large that difficulty arises at calving. There is some little truth perhaps in this objection, but obviously, in agriculture as in every other occupation under the sun, few improvements can be brought about without taking some little extra risk. This trouble, however, will be amply repaid to every cow-keeper who *sells all* his calves as *feeding stores* if, as all such should, he uses *a bull of any pure beef breed*.

On the other hand, many cow-keepers tell us that where a sire of quality is used, the sucking calf is small and so sells

badly in the open market, and this evil is certainly apt to occur in some districts before the reputation of stock bred as described above is satisfactorily established. Experience has, however, shown that the use of a good bull for a few years will do away with any prejudice which at first may exist against a neat calf of quality in a market where buyers have long been accustomed to coarse, and therefore, *large looking* calves. This prejudice once removed, such youngsters will sell at very much better prices than their ousted rivals.

Delicacy in the calves is another point urged. If this be true, which experience in actual practice makes the writer doubt, it merely means that a little more care is required to get a good beast than a bad one, and obviously in these times of small profits at farming, what is done at all had best be done well.

Again, there is the case of the small cow-keeper who has to use another's bull and so must take what he can get. It is a million pities that the prevalence of contagious abortion makes the co-operative ownership of a valuable sire so very difficult to carry out in practice. Though the difficulties caused by this terrible scourge are admittedly most serious, still with proper regulation even this obstacle to improvement might be overcome.

It is self-evident that general improvement in the supply of stores bred by milk producers is not an easy and simple matter. We hold, however, that it has been shown to be within the bounds of possibility and only to require vigorous and energetic action on the part of the agricultural community. Holding, as we do, that within reason all things are possible to the great practical attainments of our farming community, we would emphatically urge the presence of the "writing on the wall." Whatever political party may be in power, it cannot be imagined that the general public opinion of this country will allow the just grievance of the feeder to go for long without remedy, so that every possible consideration must be given to their requirements by those to whom the continued exclusion of foreign and colonial live stock is commercial salvation.

K. J. J. MACKENZIE.

University Department of Agriculture,
Cambridge.

December, 1908.

MARKET GARDENING AND FRUIT GROWING IN THE VALE OF EVESHAM.

"THE path is called the Little Abbey Lane, and divides what were formerly the cloisters of the great church from the gardens of the Monastery. These gardens, which were in cultivation by the Monks of Evesham Abbey more than one thousand years ago, formed the beginning of that great market-garden industry which has now become so widely extended in the town and neighbourhood, and gives to the district the title of 'The Garden of England.'" The quotation from Smith's valuable publication, "Evesham and its Neighbourhood," briefly indicates the earliest site and commencement of a most important and flourishing industry in the County of Worcester. And although this industry now extends from its centre at Evesham into Warwickshire and Gloucestershire, yet nearly the whole of it is in Worcestershire.

Fifty or sixty years ago the total area of land devoted to market gardening and fruit growing near Evesham has been estimated at from 500 to 600 acres; now (December, 1908) the total area within a radius of ten miles of Evesham devoted to this industry is estimated at 15,000 acres. The area within seven miles of Evesham alone is estimated at 10,000 to 12,000 acres; the present area being supposed to be about double what it was twenty-five years ago, so rapidly has the industry extended.

The pioneers fifty-five years ago were men of such well-known names as Myatt, Masters, Field, Cole, New, and Byrd; to these men belongs the credit due for continuing and more firmly establishing such profitable and prosperous work. To the late Mr. James Myatt we are indebted for "Myatt's Early Prolific" potato, "Myatt's Early Offenham" cabbage (the best for commercial purposes), "Myatt's Victoria" rhubarb, several strawberries of sterling merit, and other vegetables and fruit.

In more recent years young men of good family and education have settled in the district and embarked in market gardening with more or less success; but bearers of the old names—descendants of those previously mentioned—occupy the leading positions.

It is not uncommon, also, to find instances where steady, industrious labourers commence with an allotment; then take a larger one; and in three or four years more we find these men fully developed market gardeners with their four, six, or ten acres of garden, horses and carts, and living in their own new, well-fitted, and well-furnished homes.

Of the eight main vegetable crops grown, the *estimated* area is as follows :

	Acres.
Asparagus	700—1,000
Cabbage (for cutting in March and April)	1,000
Beans (runner)	500
Marrows	200—250
Onions (for use as salad in the early months of the year).	150—200
Lettuce (for use in March and April)	100—120
Peas	2,000—2,500
Radishes	70—80

These are supplemented by early cauliflowers, broad beans, ridge cucumbers, parsnips, leeks, Jerusalem artichokes, and herbs.

Tomatoes are largely and often profitably grown in the district in the open air. Of these it is estimated there are grown 250 acres. During 1908 one man alone had 30 acres of tomatoes—a risk which some men would not care to take.

Wallflowers (Gillies) and **Narcissi** are largely grown as catch crops under the fruit trees, and are valuable aids to keeping the balance on the right side of the ledger. Violets also are grown to some extent in beds and borders in the open; and white pinks are grown as a profitable edging to the paths.

With regard to successional crops or **Rotation of Cropping**, this necessarily varies with the individual grower, and the kinds of crops he cultivates. Broadly, cabbage is followed by the tomato crop, spring onions are followed by Brussels sprouts, radishes are succeeded by marrows or ridge cucumbers, or both, and broad beans are grown at intervals between, to form shelter. Often early cauliflowers are grown under hand glasses, and marrows between them. These, in turn, are succeeded by peas (early) or runner beans, and sometimes Brussels sprouts. Cauliflowers, if not taken, as before mentioned, under hand glasses, are planted after spring cabbage, the latter being cleared from the ground when quite young. The cabbages will have been dressed with some kind of fertiliser, and will thus leave the soil in “good heart,” and quite capable of carrying another “green” crop without unduly exhausting the soil.

As animal manure is very scarce, other sources of plant food have to be utilised; and such fertilisers as fish guano, soot, nitrate of soda, and blood manure are very largely used. In a lesser degree recourse is had to muriate or sulphate of potash, kainit, bone meal, and superphosphates.

There are six vegetable crops at least which receive special attention, viz., asparagus, cabbage, marrows, radishes, peas, and lettuce.

Asparagus, in value if not in area, stands first. It is grown, in almost all cases, in single rows at 3 ft. or 3 ft. 6 in. apart;

but occasionally it is seen in narrow beds containing two rows, with a wide path or trench between. No special preparation of the soil is made, or required, for this crop. Sometimes the seed is sowed where the plants are to remain ; by this procedure some time is saved, but there is a consequent variation in the strength of the plants, and the size and quality of the asparagus produced. It is better to sow the seed in a bed, very thinly, in April, and to plant it out in the April of the following year, selecting *the best* plants only for propagation. The subsequent cultivation mainly consists of manuring, earthing-up, cutting, and re-earthing during the season of cutting, weeding, diligently searching for the asparagus beetle (neglect of this being a frequent cause of failure), cutting down the stems in November, and levelling the ridges.

Cabbage, though equal in area, is seldom of the same value per acre. The seed for this crop is sowed on beds in July. The young plants are planted out in September, and sometimes in October, in rows about 15 in. apart, and about 12 in. from plant to plant in the rows. They are frequently hoed, and in January and February dressing with fertilisers commences. The stimulants and hoeings promote early growth, and nice young cabbages are ready for cutting some time in March.

Marrows.—Sometimes these are raised from seed sowed in pots and placed in artificial heat in a greenhouse, frame, or hotbed ; but more usually the seed is sowed where the plants are to grow and fruit. In the latter case holes are made at certain distances apart—the distances depending on whether the ordinary rambling plant be grown, or whether they be “bush” marrows, the latter being compact plants, about 4 ft. across, and very fruitful ; a forkful of manure is placed in the holes, the soil returned, a ring of metal 3 in. or 4 in. in depth, and about 12 in. in diameter is placed thereon, three or four seeds are sowed, and a disc of glass placed over the ring. This is done about the end of April. Some covering is required on cold and frosty nights, and various materials are used for the purpose ; particularly is this protection from cold required when the seedlings are through the soil. With the warmer days and nights of June, the glass is entirely removed, and the marrow plants fully exposed.

Early Peas are usually sowed in January, in rows 18 in. to 24 in. apart, on sheltered plots and protected borders. Sticks are seldom used, dwarf varieties only being grown. Harrison’s “Eclipse,” “William Hurst,” “Daisy,” and “Senator,” being the varieties most favoured.

Lettuce.—A hardy variety of cabbage lettuce named “Schofield” is the variety mainly cultivated. The seed is sowed early in August, and at the end of September strong plants

are obtained for transplanting in breadths under the shelter of plum trees from which, at that time, the fruit has been gathered. The soil must be fertile and clean ; the lettuce plants are placed 6 in. or 8 in. apart, and beyond a little watchfulness for slugs, sparrows, and larks, little more attention is given to the crop.

Radishes—especially the earliest crops—are not so easily obtained as the general public would think. Tender and juicy radishes can only be obtained from rich soil—soil rich in plant food and humus. The earliest crops are sowed in December on borders sloping to the south, and these are sheltered from the north either naturally or artificially—often both. The seedlings are very tender in January and February, and easily destroyed ; hence it is not uncommon to have to sow twice, and even thrice, to obtain a crop of early radishes. After the seed is sowed and lightly raked in, the whole border is covered with clean, new straw. When the seed has germinated and the seedlings appear, this protective covering of straw has to be carefully removed on favourable days by a very long-handled rake, and be again returned over the seedling radishes in the evening ; since, if they are not exposed to *light* they will perish, and if they be exposed to *frost* they will likewise perish. So the lot of the radish grower can hardly be described as “a happy one.” Birds are troublesome to the later crops grown on the open plots, and these are scared by boys armed with various, and more or less harmless, weapons.

Tomatoes also must be considered as a special crop in and around the Vale of Evesham, and it has come into favour within the last twenty years. They go to supply the English and Scottish markets with cheap fruit during the months of September and October ; and if the grower can obtain five or six farthings per pound clear he is amply repaid by a good crop. All are grown in the open, “glass” being conspicuous by its absence from such an important horticultural centre. The few gardeners who have one or two warm greenhouses supply their neighbours with young tomato plants at a cheap rate per thousand during the latter half of May. These are planted in rows about 4 ft. apart, and 30 in. or 3 ft. apart in the rows, and tied and trained to a stout stick about 3 ft. high. As previously stated, one man has grown 30 acres of tomatoes in 1908, but usually the area devoted to them by individual growers varies from half an acre to 4 acres.

FRENCH GARDENING.

So much attention has been given to this subject in 1908 that it may be well to refer to it here.

"La Petite Culture" under frames and bell-glasses, or "French Gardening," is the same system whereby the old English gardener produced all his early vegetables and salads under frames set on heaps of fermenting material. The writer had his first practical experience of the system in 1865, and practised it continuously till 1871. Since then "glass" has got cheaper, hot-water apparatus have been developed, and so the more or less uncertain hot beds have been replaced by hot-water heated frames, pits, or low roofed glass-houses.

It may be remarked that a "French Garden" is not a piece of ground entirely covered by frames and bell-glasses, but that the amount of land so covered is equal to about one-fourth of the total area; the glass being moved from quarter to quarter or plot to plot, as the various successive crops require protecting.

So far as I know, there is but one *bonâ-fide* "French Garden" at Evesham, but I believe the *nucleus* of a second one has been formed. Considering that a large number of Evesham gardeners were taken to Paris several years ago with the special object of stimulating them to copy the French gardeners, and incidentally to show to them (the Evesham men) their backwardness and shortcomings, it is significant that the Frenchmen have had practically no imitators in the Vale of Evesham.

Mr. J. N. Harvey, the owner of the French Garden in Evesham, has most kindly supplied the following particulars and estimates for the cost of, and returns from a "French Garden" of two acres, containing about half an acre of glass. This area of land is the item taken by the author of "The French Garden," on page 8 of his book.

The quantities and prices mentioned are averages; neither the best or the worst possible crops or prices being specified.

Estimated average capital expenditure on and returns from a French Garden covering two acres of land with half an acre of glass, conducted by an intelligent man with an average knowledge of horticulture.

CAPITAL ACCOUNT.

	£	s.	d.
110 frames @ 15s.	82	10	0
330 lights	123	15	0
3,000 cloches @ 60l. per 1,000	180	0	0
Water-pipes, fittings, &c.	30	0	0
Mats	25	0	0
Tools	5	0	0
Sheds	50	0	0
Crates, boxes, &c.	20	0	0

£516 5 0

CURRENT ACCOUNT.

EXPENDITURE.			INCOME.		
	£	s. d.		£	s. d.
Manure, 250 tons @ 6s. .	75	0 0	Lettuce, 1,700 doz. @ 1s. .	85	0 0
Labour—			Cos lettuce, 400 doz. @		
Proprietor	50	0 0	3s.	60	0 0
Assistant	40	0 0	Carrots, 3,000 bunches @ 3d.	37	10 0
Extra labour	10	0 0	Cauliflowers, 200 doz. @		
Water, 200,000 gals. @ 1s.			2s. 6d.	25	0 0
per 1,000	10	0 0	Radishes, estimate	10	0 0
Painting	10	0 0	Cucumbers (170 lights),		
Seeds	3	0 0	1,000 doz. @ 1s.	50	0 0
Rent	12	0 0	Melons (160 lights), 480		
Rates	3	0 0	@ 1s.	24	0 0
Sundries	15	0 0	Outdoor crops from 1½		
Depreciation—			acres	60	0 0
Frames, 20 per cent. . .	16	10 0			
Lights, 10 per cent. . .	12	8 0			
Rest, 5 per cent. . . .	16	0 0			
Interest on Capital @ 5					
per cent.	25	16 0			
Profit	52	16 0			
	£351	10 0		£351	10 0

FRUIT CULTURE

has become very important and extensive in the Vale of Evesham, and probably the district is better known throughout the United Kingdom for its plums than for any other crop. Truly the vast area occupied by this fruit tree is surprising to any visitor. In all directions the plantations extend for miles, and in spring the vast sheets of white blossom presented to view form a series of pictures “in white and dark grey” not soon forgotten.

Within a radius of ten miles of Evesham probably there are upwards of 9,000 acres of plum trees; and in years when the crop has totally failed, the writer has estimated the loss at certainly not less than 100,000*l*.

The plum trees are variously planted; sometimes in whole plantations in rows at 12 ft. or 15 ft. apart, sometimes in “belts,” often in single or double rows at 30 ft. to 40 ft. apart, the intervening space being cropped in turn with different kinds of vegetables, such as cabbage, peas, marrows, runner beans, or spring onions, whilst other breadths are devoted to asparagus.

The varieties of plums chiefly grown are Pershore, Victoria, Czar, Damascene, White Perdrigon (grown under the name of White Magnum Bonum), Rivers' Early Prolific, and Heron; the first four predominating. Belle de Louvain, Cox's Emperor, and Jemmy Moore are also grown in small quantities. A new variety, said to be a purple variety of Pershore, possessing all

the virtues of that variety, has made its appearance in the district and been favourably received.

Apples are being more extensively grown, there being now about 3,000 acres of them. Bush trees are mainly planted, and these by the more up to date of the growers. This is a step in the right direction, since apple blossom escapes the earlier frosts, which are so destructive to the blossom of the plum, and thus gives a crop of fruit when there are no plums.

Pears are much less grown than apples, but a move has now been made, and bush pear trees are being planted. Planters are feeling their way with regard to suitable varieties, and wisely so. The writer has seen on one fruit farm plantations of nice bush trees of the well-known "Marie Louise" (a variety notoriously "shy"), which up to the present have given practically no fruit. If they would produce a good crop the owner would be fortunate, but this result is difficult to attain. Doyenne d'Été is well thought of by those who grow it—a small and early pear, and very prolific. Of course Williams' Bon Chrétien is grown, and where this succeeds I would recommend a trial—on the quince stock—of Clapp's Favourite, which is an improved form of Williams' Bon Chrétien.

Gooseberries constitute the second important fruit crop in the district. Probably there are upwards of 900 acres grown, and many of these form an "under crop" to the plums, being planted beneath and between the trees; but many are also grown in the open. They are planted 5 ft. or 6 ft. apart, and the pruning mainly consists of thinning-out the branches which are too close, and slightly shortening the young growth. Occasionally this crop realises a very high price, but the average may be taken as about 45*l.* per acre.

The varieties chiefly grown are Keepsake, Whinham's Industry, Whitesmith, Crown Bob, Lancashire Lad, and Berry's Early Kent. The writer is unable to discover any difference between the first and last named.

Strawberries.—Omitting tomatoes from this division, strawberries are the next in importance. Many acres are grown, but it is difficult to form an approximately correct estimate of the total area devoted to them. It is said there are 2,000 acres. They are usually grown in breadths between the rows of plum trees, which are planted 30 ft. to 40 ft. apart; the rows of strawberries being 3 ft. apart.

During the first year the strawberries occupy the ground a catch crop of some kind is taken from between the rows. If the strawberries be planted in autumn the catch crop will be either spring cabbage or spring onions, or early lettuce; if planted in spring, a crop of cauliflowers, runner beans kept

dwarf, dwarf beans, or dwarf peas may be taken. The Evesham gardeners do not trouble about summer or autumn cabbage.

The varieties grown are chiefly Royal Sovereign and Sir Joseph Paxton; and such varieties as Monarch and Vicomtesse Héricart de Thury are not wholly despised. Even the old British Queen is to be found, though it is rare.

Of raspberries and loganberries little need be here said; both are grown, but to a very limited extent. Those persons who can grow the American blackberries will succeed with the loganberry, the treatment for the latter being identically the same as for the former.

LIFE OF FRUIT TREES.

It will be understood that the life of any tree is largely governed by the nature of the soil in which it grows, by its treatment and environment.¹ Plum trees growing on gravelly ground are shorter-lived than those on the rich alluvial soil of the Valley of the Avon. The former are practically exhausted in twenty or twenty-five years; the latter will last ten years longer. Negligence as to food and water will shorten the life of a tree in either of the two cases, but particularly in the former. Judicious or injudicious pruning cannot fail to have an influence on their welfare.

The plantations of apples and pears being young, it is too early to particularise as to them; but it is safe to say that the same conditions which affect the plums will, in a greater or less degree, affect them.

The gooseberry trees similarly respond to the same conditions. Grand old trees 6 ft. and more in diameter are to be found on the richer and moister soil; smaller and less vigorous trees are plentiful on the drier and more hungry soil.

METHODS OF MARKETING.

At Evesham there are two wholesale markets to which growers send the fruit, flowers, and vegetables produced on their land. These markets are invaluable to the "small" growers of the district. The buyers attending these markets are local men, themselves growers, at say Evesham, and salesmen at Birmingham or elsewhere; there are also buyers on the large scale who sell to other salesmen wholesale at the cities to be mentioned hereafter.

Gardeners with many acres of land usually send their produce direct to dealers at other centres of consumption,

¹ A plum tree will not profitably bear fruit until it has been planted five or six years; then it may continue in full bearing for ten or fifteen years; then slowly decline in fruit-bearing.

such as Glasgow, Newcastle, Bolton, Manchester, Nottingham, Sheffield, Birmingham, Liverpool, Cardiff, Bristol, &c.

Much friendly advice is constantly offered to market gardeners around Evesham as elsewhere. Unrestrained criticism is often directed at their methods of marketing by persons whose only knowledge of fruit crops consist of counting their gooseberries by the gallon, plums by the peck, apples and pears by the dozen. Many of the men of Evesham have to handle their fruit literally by the hundreds of tons; and with regard to plums "pretty packing" is out of the question in all but very exceptional cases. With regard to plums the finest samples are packed in half sieves (12 lb.) or sieves (24 lb.), and in these they travel very safely. The next grade are placed in half pot hampers (36 lb.), and the common quality into pot hampers (72 lb.). The same applies to gooseberries—the earliest pickings (green) in half sieves and sieves, the later fruit in half pots and pots.

Apples, being less perishable than plums, are graded with much care, the finest being wrapped in tissue paper and packed in small boxes; the second grade are carefully packed in sieves, and the third grade in half pots and pots. Pears are similarly treated.

Strawberries—the earliest and finest—are packed in punnets (round or square), which in turn are carefully placed in cases made to contain three dozen or six dozen punnets, and are sent straight to the retail dealer, who is thus able to deliver to his customers strawberries almost as fresh as they were when gathered. The later fruit is sent to market in shallow trays in "nests," and these also arrive at the dealers in good condition.

Asparagus is tied and sold in bundles of 120 "heads," each bundle of 120 consisting of four smaller bundles, the whole being bound together into a long flat bundle by means of thin withes or osiers. These bundles in turn are placed in pot hampers (*and usually arrive safely at their destination*), their only packing being a bit of soft straw.

Marrows, peas, beans, radishes, cabbage, onions, and cucumbers are all sold by the pot hamper, the radishes and onions being first tied in bunches—the long radishes in "hands."

The most choice and earliest fruit and vegetables—including salads—can be bought only by the few hundreds or thousands of wealthy people. The largest quantities of these articles are comparatively very small. They can, and should, be packed in receptacles in which they may show to advantage when opened. The buyer sees them as they are opened and is willing to pay for appearance as well as for quality; therefore the grower who would obtain the best prices for the produce of his garden

should give special study to the selection of suitable packages, the colour as well as kind of packing material, and to very careful grading and packing, in order that the best effect may be produced when the consignment is opened. I know that in this respect there are some good pioneers at work in and around Evesham, and probably nothing more need be added to these remarks.

This article would be incomplete without some reference to the Railway facilities in the district. The Midland Company and Great Western Company collect small quantities of garden produce within a radius of several miles of their respective stations, so the man whose holding does not justify the possession of a horse or pony is, though not on equal terms with the man who has one, much more fortunate than is the case in some districts.

The Midland Company have nine or ten stations in the district, and the Great Western Company six or seven; so the Vale of Evesham is well served.

These railway facilities certainly are a great advantage, and the climate and soil possibly play a great part in producing the extraordinary qualities, quantity, and variety of the produce from the district. But fruit growing and market gardening would not be so prosperous were it not for the attention given to the crops by the excellent and hard-working cultivators of Evesham and district.

JAMES UDALE.

2, Ombersley Road,
Droitwich.

THE NITROGEN PROBLEM IN CROP PRODUCTION.

BY EDWARD J. RUSSELL, D.SC.,

*"Goldsmith" Chemist for Soil Investigations, Rothamsted
Experimental Station.*

NITROGEN is almost equally important in all branches of farming: the yield of crops is increased by increasing the amount present in the soil, the yield of milk is affected by the amount supplied to the animal, while the rate at which a beast fattens is greatly influenced by the quantity present in its food. It is by far the most expensive constituent in

purchased manures, and the one most liable to waste both before and after spreading on the land; while the nitrogenous constituents of food, though not as costly as the oil, are nevertheless a serious item in the feeding-stuffs bill.

In the present paper it is proposed to deal only with crop production, which is as a rule the most important phase of the problem. The bulk of the nitrogenous feeding-stuffs wanted by the animal can be grown on the farm, and a large part of the nitrogen actually consumed in the food is excreted and may pass into the manure. Hence, even for the dairyman and the farmer who fattens stock, the nitrogen problem largely resolves itself into questions of manure-making and crop production.

It is a matter of common experience that the yield of non-leguminous crops on nearly all soils is increased by supplying nitrogenous manure. The increase does not go on indefinitely, and heavy dressings bring in proportionately less return than lighter ones. Up to a certain point the extra crop more than pays for the extra manure, but beyond that point the increase in yield is so small that it no longer pays for itself. It would require a nice calculation of odds to determine just how far manuring can profitably go.

The Sources of Nitrogen available to the Farmer.

In ordinary circumstances there are four sources of supply available. (1) Nitrogen compounds already in the soil; (2) purchased manures; (3) purchased food-stuffs, the nitrogen of which largely passes into the animal excretions; (4) nitrogen of the air fixed by bacteria.

1. *Nitrogen compounds in the soil.*—The amount of nitrogen present even in very poor soil is surprisingly great, and would appear sufficient to last for a large number of crops. The figures in Table I. illustrate this point very well.

TABLE I.—*Amounts of Nitrogen present in certain Soils.*

	Percentage of nitrogen	Lb. of nitrogen in top 9 in. per acre	Number of four- quarter wheat crops (including straw) containing this quantity of nitrogen
Rothamsted soil, unmanured for 60 years	·097	2,450	47
Barren sandy heaths, Kent and Surrey	·125	3,400	65
Good arable loams, Kent (mean of 15)	·180	4,800	92
Kent hop gardens, very rich	·200	5,300	102
Sandwich marsh soil	·681	17,200	331

There is clearly no deficiency of nitrogen compounds in any of the above soils, but unfortunately only a small proportion of these compounds is of any value as plant food. One of the great problems of the future is to discover a means of converting the useless compounds into valuable material, but for the present they must be left out of account ; in most cases the farmer cannot get enough nitrogen out of the soil itself for profitable farming.

2. *Purchased manures.*—The simplest of these, sulphate of ammonia, obtained from coal, and nitrate of soda, found in South America, are in such demand that many attempts have been made to obtain them, or similar bodies, at cheaper cost than at present. Enormous quantities of nitrogen exist in the air around us—a cubic yard of air contains enough to make 10 lb. of nitrate of soda—and the difficulties of conversion are now to a large extent overcome. At least two manures are at present being made from the nitrogen of the air. The so-called “nitrate of lime,” a basic calcium nitrate, closely resembles nitrate of soda in speed of action and effectiveness, while it promises to be better adapted to stiff soils, since it does not render them sticky and unkindly. The second manure, calcium cyanamide, which has unfortunately received the name “lime nitrogen,” is more like ammonium sulphate in general action, though it still remains to be seen whether it will prove as useful on potatoes. The fact that these manures can be made on a commercial scale definitely dispels any fear of the “nitrogen famine” about which gloomy apprehensions have at times been entertained.

Certain bye-products from manufacturing processes are also available as manure, and the amount tends to increase by reason of the economies necessitated by modern manufacturing conditions. As an instance : the great demand for vegetable oil has led to a number of oil seeds being brought into commerce, the residues from which after extraction of the oil are available as manure if they cannot be used for food ; rape and castor meals are familiar examples. Again, the woollen factories of the West Riding of Yorkshire turn out quantities of waste material which can no longer be worked up into cloth, and is therefore sold as shoddy, wool waste, &c., for manure. Even the importation of immense amounts of foreign meat is not altogether bad, in this respect, for the agriculturist, since a certain amount is condemned and converted into manure.

Other sources of nitrogen have not yet been fully exploited, *e.g.*, sea-weed, inedible fish, peat, &c., and, finally, immense amounts of nitrogen compounds, which ought to fertilise our soils if only the way could be discovered, are annually destroyed in our sewage works.

3. *Purchased feeding-stuffs.*—Most of the nitrogen of purchased feeding-stuffs may go to enrich the soil; only a small part—varying from about 30 per cent. in the case of a dairy cow to about 5 per cent. in the case of a fatting bullock—is retained by the animal to make milk or meat. The remainder is excreted—the most useful part in the urine, and the rest in the solid excreta. When the conditions allow of it, there is no better method of increasing fertility than to fatten animals on the land. Some of the most fertile tracts of the Lower Greensand formation in Surrey and Sussex owe their productiveness largely to the practice of buying in sheep in autumn and fattening them out during winter and spring on purchased concentrated foods. The fertility of some of the very productive marsh and brick earth soils of Kent and Sussex has been maintained and often increased by fattening bullocks. Nitrogen is thus transferred from the foreign soil, where the purchased food was grown, to the home soil, where it is fed to animals. The tendency of modern agricultural conditions is to enrich some of our own soils at the expense of the soil of other countries.

When animals cannot be fed on the land, but have to be fed in stalls, boxes, or yards, the proportion of nitrogen reaching the soil is diminished, for dung cannot be made without loss. Even if the utmost care is taken, about 15 per cent. of the nitrogen is lost, and the loss falls entirely on the quickly available, *i.e.*, the most useful, nitrogen compounds. A greater loss takes place if the dung cannot be used straightway, but has to be stored in a mixen; indeed, before the dung reaches the soil nearly half its nitrogen may have gone even on a well-conducted farm. The loss is still greater where the management is bad, *e.g.*, where the dung is made with excessive quantities of litter, and left exposed to rain in open yards for long periods, or where the liquid is allowed to run to waste.

The amount of nitrogen furnished by the food is proportional to the amount of protein (or albuminoid) present. Thus for certain common foods the order would be :—1 (supplying most nitrogen), decorticated cotton cake; 2, linseed cake containing 7 per cent. oil; 3, linseed cake containing 10 per cent. oil; 4, undecorticated cotton cake; 5, pulse; 6, dried brewers' grains; 7, wheat offal; 8, barley, and 9 (supplying least nitrogen), maize. It is noteworthy that linseed cake containing 7 per cent. of oil makes better manure than the grade containing 10 per cent. Wheat offal also stands above any corn, whether barley, oats, wheat, or maize.

4. *Nitrogen fixed by bacteria.*—(a) Bacteria associated with leguminous crops.—In relation to the nitrogen problem the various leguminous crops—peas, beans, clover, sainfoin, lucerne,

tares, lupines, &c.—stand out in sharp contrast with all others. They do not depend for their growth on a supply of ready-made nitrogen compounds, but can obtain all the nitrogen they want from the air. In fact, they actually enrich the soil, because the roots and stubble, when decayed, produce valuable nitrogenous plant food. The following Rothamsted experiment shows that a clover crop will both yield more nitrogen to be sold off or fed, and also leave more quickly available nitrogen behind it, than a corn crop :—

	Wheat	Clover
Lb. of nitrogen in crop removed	12	27
Lb. of quickly available nitrogen (<i>i.e.</i> , in the form of nitrates) in the top 9 inches of soil remaining after the crop is removed	52·4	145·7

But the most convincing evidence is furnished by the Agdell field experiment. Here the rotation clover, wheat, roots, barley, is tried against fallow, wheat, roots, barley, and the beneficial effect of clover on the succeeding crops is well seen in Table II.

TABLE II.—*Effects of Clover on subsequent Crops in the Rotation, average 1884-1907 (omitting 1898-1901, when Beans replaced Clover in the Rotation).*

Potash and Superphosphate Supplied, but no Nitrogenous Manures.

	1st crop, wheat		2nd crop, swedes	3rd crop, barley	
	Grain	Straw		Grain	Straw
	Bushels	Cwt.	Cwt.	Bushels	Cwt.
Yield after clover	36·6	33·9	189	19·8	12·8
Yield after fallow	28·1	26·3	151	14·1	9·3
	8·5	7·6	38	5·7	3·5
Increase due to clover	30	29	25	40·4	37·5
Percentage increase					

In this experiment the swedes are all drawn off; had they been fed on the land, the barley would have shown a still further increase.

No nitrogenous manure is supplied to this plot, but both potash salts, and phosphates are given. Another experiment shows that the beneficial results of clover *depend on an adequate supply of these substances*; reference to Table III. shows that, on the unmanured plot, clover scarcely increases the yield of wheat and depresses the yield of barley and swedes, particularly the latter.

TABLE III.—*Yields during the same years on Plots where no Manure is supplied.*

	1st crop, wheat		2nd crop, swedes	3rd crop, barley	
	Grain	Straw		Grain	Straw
	Bushels	Cwt.	Cwt.	Bushels	Cwt.
Yield after clover	22·3	18·9	5·1	10·5	9·7
Yield after fallow	23·1	19·0	16·2	14·4	10·3
Decrease due to clover . . .	·8	—	11·1	3·9	·6
Percentage decrease . . .	—	—	68·5	27	5·8

Many cases are on record where leguminous crops have effected great improvement in the soil. Jethro Tull, writing in 1730, mentions a farm of over 100 acres on thin slaty land "of ten pounds per annum rent, which, whilst in arable was like to have undone the tenant, but, being all planted with St. Foin by the owner, was let out at one hundred and ten pounds per annum, and proved a good bargain." A classical instance is furnished by the Schultz-Lupitz estate in Altmark, North Germany. Fifty years ago this was a barren sand; it was manured with lime, potash, and phosphoric acid, and cropped alternately with lupines and cereals. The lupines were either ploughed in or fed, and so increased the amount of nitrogen¹ and organic matter that the barren sand was after a time converted into a rich soil, capable of growing a large variety of crops. This excellent result had been obtained without buying in any nitrogenous manure. In our own country the late Mr. Mason, of Eynsham Hall, Oxon, effected a marked and permanent improvement in some poor Oxford clay by deep cultivation, treatment with basic slag, and sowing with lucerne. Wherever a good plant was obtained, the soil was considerably enriched in nitrogen; as the ley got old, it was either converted into meadow by sowing appropriate grass seeds, or else ploughed up and put into corn and roots.

It is hardly necessary to lay further stress on the importance of leguminous crops. Their value is great, whether they are fed green or made into hay, and whether the hay is fed or sold off. Unfortunately they suffer from two or three drawbacks.

They cannot replace roots as winter and spring food. Attempts have been made to convert them into silage to be fed in winter and spring, but without any great success;

¹ In 1880 the top 8 inches of soil contained ·087 per cent. of nitrogen, and in 1891 ·177 per cent. An adjoining pasture was found in 1880 to contain only ·027 per cent.

the loss of feeding material in the silo is so great that the silage costs more than it is worth. In any attempts to extend the leguminous crops they must not be brought into competition with roots.

The second drawback is more serious because more obscure. Many arable soils will not profitably carry clover oftener than once in six or eight years; if it is tried more frequently the yield falls off and the land is said to become "clover sick." No cure is known, and even the nature of the "sickness" is not understood. It is known, however, that land which fails to carry one leguminous crop will not necessarily fail to carry another, and the practical inconvenience arising from "sickness" can be obviated to a certain extent by changing varieties, so that each sort has a long interval before it is sown again. The relative value of the different varieties of leguminous crops depends on local conditions, and would form a very fruitful line of trial for those in a position to carry out agricultural experiments.

It has been stated above that the free nitrogen of the air forms the food of leguminous plants. The nitrogen is, however, not taken up directly by the plant but by minute bacteria associated with the little lumps—the nodules—on the roots. Leguminous plants therefore depend for their food on these bacteria, and it has been urged that farmers have only to add bacteria to the soil in order to secure heavy and valuable crops for a trifling outlay. The scheme is certainly attractive, and appeals strongly to the natural human desire to achieve great results at a small cost, so that "soil inoculation" is always sure to arouse very widespread interest, and has even formed the subject of questions in the House of Commons. On going carefully through the experimental evidence, two facts stand out clearly:

(1) Soil inoculation has proved successful on poor virgin soils that are being put into leguminous crops for the first time;

(2) It has also succeeded on older arable land when a completely new variety of leguminous crop is being grown for the first time.

But when we turn to the common British case of leguminous crops that have been grown fairly frequently on the same soil, we find so few successful instances that the plan cannot at present be recommended. The problem is, however, under investigation in several laboratories, and a practical method may at some time be evolved.

5. *Nitrogen fixed by bacteria without leguminous plants.*—Bacteria capable of taking up free nitrogen and making it into plant food occur in many, if not most, soils, but as they

require organic matter (*i.e.*, decayed plant remains) for food their action is best seen on land where vegetation is left to die back. Land which has gone out of cultivation and is left to cover itself with weeds, grasses, &c., or to become permanent pasture, no matter how poor, will steadily enrich itself in nitrogen so long as calcium carbonate is present. A Rothamsted plot left to run wild is gaining something like 100 lb. of nitrogen per acre in the top 9 inches every year; indeed, there is reason to suppose that soil came by its original stock of nitrogen compounds through the action of these organisms. The conditions in arable land are less favourable to their action, and at present it is not clear that these unattached nitrogen-fixing organisms play any great part in ordinary farm practice.

The Losses of Nitrogen on the Farm.

We now turn to the other side of the account to see in what ways nitrogen is lost, and how the losses may be kept low. The two most serious are: (*a*) drainage; (*b*) bacterial action.

Loss by drainage.—The ready solubility of nitrates is an advantage so long as a crop is on the ground to take them, but a disadvantage under other circumstances, since it leads to their being washed away. The loss thus suffered during the year cannot be estimated precisely, but a few examples will give an idea of its amount. A piece of ground at Rothamsted kept clear of crops and weeds loses by drainage 31·4 lb. of nitrogen each year, equivalent to 188 lb. of nitrate of soda, worth about 17s.¹ One of the wheat plots receives sulphate of ammonia every other year, but its effect shows in the first year only, and none is left for the second year. It is well known that a wet autumn and winter act unfavourably on the wheat crop; indeed, Dr. Mill has shown that there is almost a mathematical relationship between rainfall and yield. One very important reason is that in a wet winter the nitrates are much more completely washed out of the soil than in a dry one. Again, it is often noticed on light sandy or gravelly soils that where a rick has stood in a field throughout the winter, the crop subsequently obtained does better than on the rest of the field which stood bare. The explanation is mainly that the rick kept off the rain and prevented nitrates from being washed away.

There are two ways of reducing the loss: (1) to use well-balanced manures during the rotation, so that the preceding

¹ Warrington estimated the loss from soil continuously growing wheat at about one quarter this amount.

crop may take up a large amount of the nitrates present ;-(2) to leave the land uncropped as little as possible consistent with good tillage.

The first method is applicable everywhere. As an instance of its effectiveness the following result from the Broadbalk Wheat Field may be quoted :—

	Crop		Nitrate in draining water running away during autumn
	Grain	Straw	
	Bushels	Cwt.	
Badly balanced manure (nitrogen only). (Plot 10)	16.0	14.75	17.8 parts of nitrogen per million of water.
Better balanced manure (nitrogen, potash, phosphoric acid). (Plot 13)	26.7	30.75	8.5 parts of nitrogen per million of water.

Much less nitrate is lost from plot 13, where a well-balanced manure has been used; indeed, analysis shows that the top 9 inches of soil contains about 300 lb. more nitrogen per acre than that of plot 10, in spite of the larger amount withdrawn by the crop.

The second method is of more limited application, because certain soils must lie uncropped during autumn and winter in order to clean the land and get a tilth. Instances are furnished by catch cropping, “bastard,” or “rag” fallowing, and sowing seeds with corn. The crop will, during the late autumn and winter, take up nitrates which would otherwise be washed away. In an experiment by Déhérain the drainage water from soil cropped with wheat alone carried away $28\frac{3}{4}$ lb. of nitrogen in the form of nitrates per acre during the year, but from soil cropped with wheat followed by vetches the loss was reduced to less than 13 lb. per acre.

Loss by bacterial action.—(a) Certain bacteria decompose nitrates with liberation of the nitrogen as gas or production of an injurious “nitrite.” This change only goes on in the absence of air, and there is no evidence that it takes place under conditions obtaining in British agriculture. It happens, however, in the swampy “paddy” soils of the East, and renders the use of nitrate of soda unprofitable there.

(b) Other bacteria live on nitrates and ammonia, which are thus temporarily withdrawn from the reach of the plant roots; when these bacteria decay some of their nitrogenous constituents may be reconverted into plant food. Not sufficient is known about this source of loss to say anything as to its practical significance.

(c) Other bacteria liberate nitrogen during the decomposition of organic matter in presence of air. They cause much of the loss in making dung (see page 107). They act in the soil whenever the condition of the land becomes high; thus they prevent an indefinite accumulation of fertility. One of the Broadbalk wheat plots receives 14 tons of dung annually, but the nitrogen does not increase in the soil as much as would be expected; analysis shows that 130 lb. are lost each year. The loss is smaller where dung is only applied once in four years, but even so it amounts to some 30 per cent. The worst instance is afforded by the virgin soils of new countries, which, when broken up and cultivated, lose their nitrogen at a great rate. At the Indian Head Experimental Farm, Sask., Canada, the top 8 inches of soil has been found to have lost during the past twenty-two years no less than 1,500 lb. of nitrogen per acre, in addition to the 700 lb. removed during that period in the crops.

No element of plant food is as liable to waste as nitrogen. If a farmer applies potash or phosphoric acid to his land he may reasonably expect to get most of it back again, but when he applies nitrogen he is almost certain to lose a good proportion of it. The sound practice is therefore to keep the nitrogen circulating, to crop it out and replace it, rather than to aim at leaving it in the soil. The most advantageous method is to use well-balanced manures, and thus secure as full a return as possible for the nitrogen applied. An instance, showing the effect on the amount of nitrate washed away, has already been given. The following example, from the Rothamsted mangold plots, shows the effect on the total recovery of nitrogen:—

	Roots, tons per acre	Nitrogen recovered, lb. per acre
Badly balanced manure (organic manures and sulphate of ammonia)	24.7	134.4
Better balanced manure (the above plus potash and phosphatic manures)	29.3	172.0

The organic manures and sulphate of ammonia supplied plenty of nitrogen but insufficient potash, consequently the plant could not make full use of the nitrogen. With a better balanced manure the recovery was more complete, a larger crop was obtained, and less nitrogen was left to get lost. The very heavy dressings of dung alone, or of dung and nitrate of soda, sometimes used for mangolds and even for potatoes, are wasteful, and would often be improved by substituting potash and phosphatic manures for some of the dung. In all farm practice the minerals lacking in the soil should be added at the appropriate place in the rotation. Liming or chalking (where-

ever necessary) must also be included in the scheme; the value of this excellent practice is universally admitted, yet, somehow, it is less commonly adopted than it should be.

Finally, a proper arrangement of the rotation helps considerably in making the most of the nitrogen supply. This opens up too wide a subject for discussion here, but it may be mentioned that cases have come under the writer's notice where marked increases of crop have been secured by suitably modifying the order in which crops are taken, and without buying in more nitrogenous manure.

E. J. RUSSELL.

Rothamsted Experimental Station,
Harpenden, Herts.

SUSSEX CATTLE.

THE "Sussex" breed of cattle is named after the county of its origin, to which it was chiefly confined until the beginning of the last century. Even at the present day no recognised pedigree herds are to be found outside the Home Counties.

When the Herd Book was started by Mr. Heasman in 1882, there were eighty-one registered herds entered in the first volume, of which seventy were in Sussex, ten in Kent, and one in Surrey, whereas we find in the last volume (Vol. 23) of the same, that there were recently (January, 1908) forty-seven herds in Sussex, forty-six in Kent, one in Surrey, and one in Essex. The increase is thus practically confined to the county of Kent, while there is a heavy decrease in Sussex.

The chief value of Sussex cattle lies in its excellent grazing and beef-making qualities, combined with great constitutional vigour and thriftiness, which make it especially valuable for stocking poor pasture land.

The colour of the breed is almost wholly red, but the tips of the tails are always white and spots of white occasionally appear on the body.¹ These, when confined to the belly of the animal, are not considered a disqualification. The shade of red most generally approved is a rich mahogany colour, but it varies from light brick dust to almost black. Black Sussex cattle are often referred to by early chroniclers of the breed.

Sussex cattle have many characteristics similar to the Devon but are larger in size, stronger in bone, and more robust in constitution. Both breeds are no doubt descended from the middle-horned red cattle which old writers tell us were found in the south and south-western counties.

¹ It may be said there is really no breed of animal absolutely whole coloured.

The Sussex bull must be strong and vigorous, and thrifty enough to get through the year without the aid of artificial food. His head should be strong and masculine, with good, though not coarse, horns which should on no account have an upward tendency but grow straight from the head. The nose must be *perfectly white*. He should have good length, especially from hip to tail, and have strong, clean bone, and he should be of the darker shade of colour.

The cows must be large and roomy, with well-developed hips and good length from hip to tail. The shoulders should be strong but not coarse, flat on the top where they meet the backbone and not coming to a point as in the milking breeds. The nose should be white, though even in the best strains an occasional dusky one may be found. As in all long-horned breeds there is a certain latitude allowed the shape of the horns, but the cock horn or Devon type must be avoided.

As with the bulls, so the cows must have good bone. This, a chief characteristic of the breed, must be insisted upon.

The history of the breed is not extensive, but in Marshall, Boys, and other writers of the eighteenth, and in Youatt in the nineteenth century we find references to the breed with allusions to their size, length, and great constitutional vigour, but with scant praise for them as beef makers; one writer calling them "quaint and ungainly creatures." This was before the improvement in the breed, and when these cattle had for generations been bred chiefly for the production of steers for draught purposes.

As far back as 1751 an old chronicler writing about the Sussex roads, says that they have a most unenviable reputation, and asks, "why comes it that the oxen, the swine, and the women and all other *animals* are so long-legged in Sussex. Can it be from the difficulty of pulling the feet out of so much mud by the strength of the ankle, so that the muscles become stretched as it were, and the bones lengthened thereby."

Earlier in the eighteenth century the Wealds of Kent and Sussex were the centre of the great iron industry, and the extensive forest of Anderida was denuded of its oaks to feed the large furnaces at Mayfield, Lamberhurst, and other places in the district. The strong-boned Sussex steers were particularly well adapted for the haulage of this timber through the soft, undrained tracks of the partially cleared forest, and their being employed on such work would account for the popular verdict against them as beef producers. It is interesting to know that, until recently, there existed a herd directly descended from the old working oxen. This was the Lyne herd, dispersed in 1903, and in the preface to the catalogue, we read that: "This is probably the oldest Sussex herd in existence,

records going back as far as 1800. When a portion of the present Lyne house was built in that year, the bricks were carted by the Sussex steers from the Lyne herd."

The writer remembers the occasional use of working oxen in Kent and Sussex. Improved roads and lighter implements, however, have led to farm work being almost entirely done by horses. It is doubtful though, if oxen, with their steady pull and freedom from injury, are not the best beasts of draught for such purposes as timber clearing. Only two years ago, teams that had been used for ploughing, carting, and timber hauling, were sold at Tenterden, in Kent.

Early in the nineteenth century an increasing population, a more flourishing state of trade, and the larger spending power among the commercial classes, all occasioned a greater demand for beef; such a demand led to improvement and increase of beef-making qualities in the stock. The choicer parts were improved, coarse bone and length of limb reduced, the fore-end diminished in size, and coarseness of shoulder modified. An animal of quality, yet of large size and maturing quickly, was the object. This the breeders of improved Sussex were skilful enough to achieve without sacrificing constitutional vigour or resorting to alien blood. In the "quaint and ungainly creature" they had hardy, healthy stock, with the soundest constitutions to work upon. Building upon such a foundation they have left us, descended from timber-hauling ancestry, a breed unequalled in the United Kingdom for quality of beef and early maturity, combined with thriftiness enough to grow and do well on the poorest pasture.

The names of some of these pioneer breeders may be here recalled.

Youatt tells us of some of them living in the latter part of the eighteenth and the beginning of the nineteenth centuries. He mentions "Mr. Ellman, of Glynde, to whom the eastern part of the county (Sussex) is much indebted for the preservation of the native breed of cattle." He also speaks of Mr. Marten, of Tirlle, who had a breed of black Sussex, of Mr. Edsaw, who was partial to large cattle, and of others.

Later on, in the neighbourhood of Rye, in those days a great stronghold of the breed, there lived Mr. Samuel Selmes, Mr. Tilden Smith, and Mr. Willsher. The valuable stock belonging to Mr. Selmes was taken over in 1848 by Mr. Smith, who carried on the herd with great success, winning prizes at Smithfield and many local shows, until at his death a most successful disposal sale took place in 1880. In many ways Mr. Smith was a link with the past. On his large farm at Knelle, Beckley, near Rye, he used Sussex steers in cultivation till the end, these large working steers when fattened making

from 40*l.* to 50*l.* per head at Smithfield and elsewhere. Though he kept no pedigrees of his cattle, we know that the influence of his blood was great, for we have sufficient evidence to prove that many breeders had recourse to his herd for bulls; this blood descending to some of our best present day stock. By reference to the catalogue of his sale it can be seen that many animals went into East Kent where hitherto Sussex cattle had been but sparsely bred.

It is on record that he tried the Devon cross, but so unsuccessful was it, that he not only discontinued it, but found it necessary to eliminate any animals so bred from his herd. This experience confirmed Youatt's opinion that the cross was not a useful one, and had always been a failure when tried, or at least resulted in no advantage to Sussex stock.

Mr. Willsher's herd which, we are told, consisted of excellent cattle of the best type, was also dispersed in 1880. We must not omit, when speaking of breeders in Sussex, to mention Messrs. Braby, father and son, Messrs. Stanford, great exhibitors in the early seventies, Mr. A. Heasman, editor of the first Sussex Herd Book, Mr. Alfred Agate, a great enthusiast, while others are reluctantly left unnamed.

In Kent the name of Mr. Philip Prebble will always be remembered as long as Sussex cattle are bred. Though previous to 1882 there were few recorded herds in this county, we find that in 1840 he had a herd at Horton Park, near Hythe, from which some of our most valuable animals of the present day are descended. Among these the "Prebble" tribe still brings his name prominently before lovers of the breed.

Mr. John Kirkpatrick, the owner of the property, and himself a breeder since 1859, took over Mr. Prebble's farm and bought some of his females in 1868, and so continued the strain, establishing at Horton Park the largest and most successful herd that Kent had known up to his day.

The late Mr. Frederick Warde did much for the breed, as was shown by the many winners he sent out from Aldon and by the record prices obtained in 1899 at the sale of his herd, rich in Prebble blood.

In finishing this notice of past breeders the serious loss sustained by the Sussex breed by the deaths of two of its staunch supporters, the Earl of Winterton and the Earl of Derby, must be sorrowfully alluded to.

The most noticeable improvement that has been effected in these cattle during the last century, has been in the reduction of size, length of leg, and more particularly in the coarseness of the shoulder, in which last respect perhaps further improvement might be effected. Youatt and other early writers pointed this out as the greatest defect in a beef-making

breed, and it is perhaps remarkable that so great a reduction of size and coarseness has been effected. At the present day, however, the improvement mostly required is in the hind-quarters, the setting on of the tail and in breeding for better buttocks and thighs.

The general thriftiness of these cattle makes them most excellent grazers on poor land; the coarsest and most scanty herbage being sufficient to maintain the cows and bullocks in good and thriving condition. This is evidenced when they are grazed in the poor parks and on the rough pastures of Kent and Sussex; on lands where sheep will not thrive and where less hardy breeds of cattle would starve. When, however, they are removed to richer and more fattening pastures, the steers rapidly put on flesh while the cows get too fat and heavy for breeding purposes. Had the lot of these cattle been cast in the Midlands we venture to assert that no breed would have been in such request for grazing and fattening in the beautiful pastures of Leicestershire and the neighbouring counties; and, were their good qualities better known we feel sure that their *locale* would not be confined, as it is now, to the counties of Kent and Sussex.

The Sussex steer is second to none in attaining great weight at an early age and, moreover, they are prime favourites with the butcher as they invariably "die well" with a large proportion of finely mottled lean meat on the best and most profitable joints. Many of the steer calves bred on arable farms when yarded at the time of weaning, will at eighteen to twenty months old, weigh 80 to 100 stone and realise the highest market price.

We have before us the figures of the eight years, 1898 to 1905, of the Sussex beasts shown at Smithfield, and find that the 66 steers under two years old averaged 13 cwt. 0 qr. 12 lb., with a daily gain of 2 lb. 1½ oz. The older steers during the same period showed a daily gain of 1 lb. 12 oz., and the heifers 1 lb. 10 oz.

These figures are conclusive of the value of the good feeding qualities of the breed and compare most favourably with those of any other breed, particularly those of the Devons and Herefords.

On more than one occasion the Sussex breed has provided the animals that held the record for the year for the highest daily gain, notably in 1902 when Mr. Gerald Warde's steer, one year ten months old, weighed 15 cwt. 1 qr. 9 lb., with a daily gain of over 2 lb. 8 oz. This is not quite the record for Smithfield as an Aberdeen Angus steer once showed a daily gain of 2 lb. 10 oz.; but in the same year a Sussex steer was exhibited at Ashford at twenty months old and scaled the

great weight of 14 cwt. 2 qrs. 16 lb., which works out at over 2 lb. daily gain, which we claim as a record up till now. The dead weight of this steer was 142 stone and 6 lb., or the excellent proportion of $\cdot 7$ or over two-thirds of his live weight. The heaviest Sussex beast that has been shown of recent years was Mr. Winch's steer which weighed nearly a ton at two years eight months old, and his dead weight was 189 stone 3 lb. These figures are sufficient to prove the Sussex breed's superiority as an early maturity butcher's beast. We may add that where classes are provided for them at local shows calves at ten and eleven months of age often exceed nine hundredweight in live weight.

Reviewing the present position of the breed, we hail with pleasure the fact that the number of registered herds has increased in the last few years, and that greater interest is now taken in Sussex cattle. At the same time, this may be partly due to the Sussex Herd Book Society admitting animals of unregistered breeding by inspection. Many undoubtedly excellent and pure bred animals have so been entered, but it is to be hoped in the interest of pedigree breeders that the Sussex Herd Book will not be opened again on the same liberal lines.

On the other hand, we have to deplore the loss of great numbers of herds of Sussex type, which some twenty or thirty years ago were kept on the Wealds of Kent and Sussex, whence their produce supplied the farmers and hop growers with excellent stores to fatten. These herds had previously existed for generations, but the increase in the price of wool which occurred about that time, together with the greater demand for milk and other causes, has led to their disappearance. Sheep, always the predominant stock in Kent and Sussex,¹ now almost entirely replace the herds of breeding cattle, inferior cross-bred beasts being bought in the summer to act as scavengers to the sheep.

While there are so many farms in Kent and Sussex contiguous to the Metropolis and the great seaside resorts, milk producing is likely to be profitable. There are, however, scores of farms not so favourably situated for the sale of milk, that would carry a few head of Sussex cattle with profit to the occupier. These unfortunately now do very little towards supplying the prime stores produced twenty or thirty years ago. Further, those farmers who have gone in for milk have not fully realised the advantage of using Sussex sires instead of the present bulls, which are often mongrels of the baser kind.

¹ Youatt remarked on the increasing numbers of sheep grazed in the Marsh districts.

These latter are responsible for the most inferior store cattle coming in such large numbers from the milk-producing districts in general, and Kent and Sussex in particular; whereas a Sussex bull whether it be from Shorthorns, Jerseys or mongrel stock invariably gets strong, healthy red, or the favourite red roan coloured calves. In our local markets these red or "coloury" calves always sell best as suckers, and, if reared to stores, make much better prices than the produce of the ordinary bull. One case in particular is known to the writer; the continuous use of Sussex bulls through some generations on ordinary milking stock has led to the cows so bred partaking much of the Sussex character, all being of the red colour and with their milking properties little impaired. All the steer calves are reared and sold as Sussex, any slight reduction of milk supply being amply repaid by their increased value.

More such milking herds might be instanced and our dairy farmers would do well to follow the example so set, with profit to themselves, good to the store stock supply of the country and benefit to their native breed of cattle.

As in all other breeds, so in the Sussex, the management varies. Their hardiness, however, perhaps only exceeded by that of the Welsh cattle, enables them to withstand the rigours of an English climate in open pastures, provided sufficient food can be obtained. On the very heavy clays of the Weald pastures, however, this is not advisable on account of the heavy treading of the cattle. On the lighter soils and the chalks of East Kent many cattle are kept out during the winter months, only receiving a little hay. In one large herd in East Kent the whole of the breeding stock has been so kept through several generations. The calves in this herd are dropped in June and July, the steers are yarded after weaning and are fed till eighteen months old, being then sold to the butcher, often averaging over 20*l.* each.

Several of the show herds keep their breeding cows without any artificial food, only a few roots and straw *ad lib.* being given to them where the farming is on arable land.

Simple as is the management, there is one point in which the writer would criticise it severely, namely, the way that milking considerations are ignored. Sorry should we be to see the grand beef-making and grazing qualities of the Sussex sacrificed to the pail, but our contention is that it has a greater capacity for maternal duties than its admirers allow, or that its breeders permit it to exercise. In all beef-making breeds where weight and "kindliness" are the first essentials, heifers will be bred that have very few maternal qualifications. Such may be excellent advertisements for the herd and make

excellent show animals, but they are not the stock to which a young breeder should look to found a herd. Given a good pedigree let him choose rather the best breeders and mothers, having obtained these, let him manage them in such a way that their lacteal qualities be developed. This he may do, following the advice of Mr. A. Heasman, who says "By this method of management a cow rears two calves and rarely proves barren." The writer once bought a cow of the Prebble tribe, which, after rearing a splendid heifer calf, brought up six others in succession.

Even with the first calf the udder should be relieved at least twice a day, preferably before the calf sucks. By this custom the calf obtains a fresh supply and the last of the milk, which we know to be the richest and best. Further, when the cow has brought up her one calf which is weaned at five or six months old, she should not be turned off into succulent pastures without any attempt being made to utilise her milk. Only this year the writer saw cows so treated, with milk running from them, and in such a state that had they been in a public market, their owners would have been liable to prosecution. Cows should always be milked after their calves are weaned until within at least three months of their calving time or, better still, may bring up another calf. I do not charge all, but the majority of breeders do their best to make the Sussex cows live up to the bad character as milkers, which, exaggerated beyond justice, they have been given by the public. They are allowed to calve in the meadows in summer time, the calf is left alone with the dam, taking what milk it requires, while no attempt is made to relieve the udder of the surplus milk which the calf cannot take.

Such practices as the above lead to over fatness and consequent difficulty in reproduction.

We have referred previously to the records of the breed at Smithfield, and we have noticed for several years that the press, both agricultural and other, has called attention to the gradual improvement in these cattle, both as regards greater symmetry and compactness, which must be evident to all who are interested in the breed. On the other hand we have heard breeders deplore the loss of size, particularly in the cows, which they say has occurred in the last forty years. This is very possibly the case, but we hold that for all useful purposes the Sussex cow is large enough, and we do not really believe that she has lost in weight, while she has certainly gained in symmetry by losing the coarseness of shoulder, length of leg, &c., that formerly distinguished her.

It sometimes occurs that at the annual summer shows, the breed is represented by small classes only, owing to their being

held at such a distance from its county; at Smithfield and other Christmas shows, however, it appears with marked success, while at the local shows, especially at Tunbridge Wells, a splendid display can always be seen.

The thriftiness, which is such a valuable characteristic of this animal, and which makes it so suitable for poor land, together with its many other qualifications, must make us feel that it is wonderful that it has not received greater attention, not only from home breeders but from those abroad. This is especially the case when we consider the great demand there is from such countries as the Argentine and our own beef-producing colonies for an animal of this description.

There are, however, some signs of an improvement in this direction and among them we may mention that the Transvaal Government which a few years ago imported some of the stock have renewed their orders again this year. Further, we are pleased to state that large exportations of both Sussex bulls and cows have, during the course of the last few months, been sent to the Argentine. If, then, the "Sussex" breeders feel on the one hand, that the breed has not received its due deserts in the past, they can, on the other, look forward with every confidence to the future.

HENRY RIGDEN.

Ashford, Kent.

PLANT PESTS AND LEGISLATION.

BY E. S. SALMON, F.L.S.,

*Mycologist to the South Eastern Agricultural College,
Wye, Kent.*

DURING the years 1907 and 1908 important legislative steps have been taken for the purpose of protecting the farmer, fruit-grower, and market gardener against the ravages of certain fungus and insect pests. With the passing of the "Destructive Insects and Pests Act," on July 4, 1907, the Board of Agriculture obtained full powers to deal with diseases of plants by legislative measures. Such legislative measures have for many years past been actively employed by the State in all other fruit-growing countries. Fruit-growing and market-gardening, as the only branch of agriculture in this country which has continuously and steadily increased its growth during recent years, can legitimately claim that large measure of State assistance which this industry enjoys in other countries. All interested in the development of fruit-growing should note that it has been chiefly because of its neglect by our Government that the state of the industry in this country at the

present time is, in many respects, some ten or twenty years behind that found in the United States, and in Canada and our other fruit-growing Colonies.

Before dealing with the recent legislation, we must, in order to understand certain points, become acquainted with the previous legislation on this subject. Only one Act existed previously, viz.: "The Destructive Insects Act, 1877." The scope of this Act was actually limited to giving the Privy Council power to "make such Orders as they think expedient for preventing the introduction into Great Britain of the insect designated as *Doryphora decemlineata*, and commonly called the Colorado beetle."

As the scope of this Act was so limited—not extending beyond one insect—and as, further, this Act has now been incorporated in a later one, it is not necessary to examine its provisions in detail. One clause, however, must be noted; this runs: "Where by any Order under this Act the Privy Council direct or authorise the removal or destruction of any crop, they may direct or authorise the payment by the Local Authority of compensation for the crop."

On the occasion of the introduction of the Colorado beetle into England in 1901 the Agricultural Authorities wisely decided to take immediate action. The carrying out of the measures was entrusted to properly qualified inspectors acting under an entomologist. The prompt destruction of all beetles and diseased crops secured the eradication of the pest in two years. Compensation for the crops compulsorily destroyed was paid from Treasury funds.

From 1877 to 1906 no further legislation was enacted, but on July 4, 1907, a much more important Act than the Destructive Insects Act of 1877 was added to the Statute-Book. This was the "Destructive Insects and Pests Act," described as "an Act to extend the Destructive Insects Act, 1877, to all pests destructive to crops, trees, or bushes." This Act gives very wide legal powers to the Board of Agriculture and Fisheries in England, and to the Department of Agriculture and Technical Instruction in Ireland, to deal with any plant pest. There are five important powers or provisions under the Act, as follows:—

1. Power to make such Orders as the Board or Department think expedient for preventing the introduction or the spreading of any pest. Orders may prohibit or regulate the landing of any vegetable substance or other article brought from any place out of Great Britain or Ireland, and direct or authorise destruction of the article if landed. Such articles, also, are liable to forfeiture by the Customs.

2. Power to direct or authorise the removal or destruction of any crop, trees, or bushes or other substance on which the

pest in any state of existence is found, or to or by means of which the pest may appear to the Board or Department likely to spread, and the entering on any lands for the purposes of such destruction or removal, or for examination or enquiry, or any other purpose.

3. Power to impose penalties (not exceeding ten pounds on each occasion) for offences against the Orders.

4. Power by Order, with the consent of the Local Authority, to direct or authorise payment by them of compensation for crops, trees, or bushes, removed or destroyed under an Order. The compensation is not to exceed half value for diseased crops, nor three-quarter value for other crops.

5. The Local Authorities who are required to carry the Orders into effect are the same as those under the Diseases of Animals Act.

We see then, that since July 4, 1907, the Board of Agriculture have been provided, under the "Destructive Insects and Pests Act," with the fullest legal powers for dealing with pests of cultivated plants; that is, they now have powers to make, from time to time as they choose, "Orders" dealing with any insect or fungus pest of plants. By virtue of these powers sixteen Orders have been issued during the past seventeen months.¹ Before considering the nature of these Orders, I should like to point out that in my opinion it is only *certain kinds of plant-diseases* which should be dealt with by *legislative means*. Such plant-diseases should (1) affect plants of economic importance; (2) be infectious and epidemic, *i.e.*, capable of spreading and of causing wholesale damage; and (3) be restricted to definite areas, so that when drastic measures are enforced there is a probability of eradicating the pest. Among plant-diseases suitable for control by legislation are pre-eminently those which may be, or have lately been, introduced into Great Britain from foreign countries. The duties of keeping a look-out to prevent the introduction of fungus diseases of this description, and of stamping out outbreaks when the disease has been introduced, have been totally neglected by the Government in the past; and as regards insect diseases the Colorado beetle has been the only one against which any action has been taken.

In order to be able to carry out this new work of fighting plant-diseases, the Board of Agriculture require to have (1) expert scientific advice that shall be authoritative; and (2) to be in practical touch with both farmer and fruit-grower. The Board of Agriculture is at present conspicuously handicapped in not being supplied by Government with adequate

¹ A complete list of all the Orders issued will be given in the Journal of the South Eastern Agricultural College, Wye, for 1909.

funds to organise the Department so that it is strong in these two respects.

In my opinion, no adequate administration of the wide powers conferred on the Board under the Destructive Insects and Pests Act can be looked for—especially as regards the fungus and insect pests which cause such losses to the commercial fruit-grower—until the Board of Agriculture are put into a position which allows them to establish a well-equipped and scientifically organised Sub-Department. Such a Sub-Department was unanimously asked for by the Departmental Committee appointed in 1905 to inquire into the conditions of the fruit industry in this country.

Let us now see what pests have been proceeded against by the Board of Agriculture and by what kind of Orders.

Two diseases during the past two years have attracted general notice among agriculturists.

The first is the American Gooseberry Mildew (*Sphaerotheca mors-uvæ* (Schwein.) Berk.). This mildew was introduced into Europe from America about 1900. Since 1900 it has spread through the greater part of Ireland and invaded parts of the Continent. It is an entirely new pest in this country, being unknown in England before 1903 or 1904; it is consequently a pest of which the English fruit-grower has had hitherto no experience. Its destructive powers can best be gauged by remembering the fact that it is solely on account of the presence of this mildew in the United States and Canada that the European varieties of gooseberries cannot be grown there to any commercial extent.

The second disease is the "Black Scab" or "Warty Disease" of the potato (*Chrysophlyctis endobiotica*, Schilb.). This again is a disease which is new to this country, having been introduced, apparently from the Continent, about fifteen years ago. There is a consensus of opinion among scientific and practical men that the "Black Scab" is an extremely dangerous and destructive disease. Already cases are on record where the potatoes in fields of several acres in extent, situated on farms in certain districts, have been so badly attacked by this pest that the crop has not been worth lifting, every tuber being affected with the disease. Already numerous instances are known where the soil of allotments and cottage gardens has become so thoroughly infected with the germs of this disease that it has become impossible to grow potatoes at all. At present the disease is firmly established in certain districts in certain counties; and from these infected districts the disease has slowly but surely been spreading through the sale of diseased "seed." A number of counties in the Midlands, in the north of England, and in Wales have become infected;

the disease exists, also, in some half dozen counties in Scotland. At present the pest is unknown in Lincolnshire, and also in the south of England generally, but unless the sale of diseased "seed" is prohibited by law (which has not yet been done) the pest will inevitably be introduced, sooner or later, into all the potato-growing districts, through the medium of Scotch and other "seed." Land is rendered unfit for potatoes for six years or longer after the growing of a diseased crop.

Let us see now what steps have been taken under the "Destructive Insects and Pests Act" against these two most destructive diseases.

With regard to the American Gooseberry Mildew, the first Order was issued on July 12, 1907. This was entitled the "Gloucestershire and Worcestershire (Gooseberry Mildew) Order of 1907," and contained the following provisions:—

The disease must be notified by the grower; the Local Authority (County or Borough Council) is then required to investigate and to serve notices under which the grower is compelled (1) to destroy immediately all diseased bushes; (2) to spray the site of all bushes that have been destroyed, and also all the remaining gooseberry and currant bushes on a defined area, with a certain fungicide. Powers of entry are given to inspectors appointed by the Local Authority. The grower, further, is prohibited from removing any gooseberry or currant bush from the defined area.

Four similar orders were issued during July, September, and October, 1907, for (1) Lincolnshire and Norfolk; (2) Warwickshire; (3) Derbyshire, Leicestershire, and Nottinghamshire; and (4) Cambridgeshire and Huntingdonshire.

The object of these Orders was to secure the destruction of diseased bushes. But little success resulted in this direction. As pointed out on page 124 it is at present left to the Local Authority to decide whether compensation is paid for bushes compulsorily destroyed, instead of the Government having vested this power in the Board of Agriculture, as in the Act of 1877 (see page 123). In the case of all the above Orders, the County Councils concerned decided not to give any compensation. The growers strongly objected to having their bushes destroyed without being compensated, and a deadlock resulted, *there being no systematic grubbing up of diseased bushes over the infected areas in any county*. The extreme difficulty, or even the impossibility, of working this first Order, coupled with the fact that the mildew has spread rapidly to fresh areas, forced the Board on December 10, 1907, to revoke all these Orders, and to issue the "American Gooseberry Mildew Order of 1907."

The important difference in this new Order—which affects all the counties mentioned on p. 126 and also Herefordshire—was the substitution of the words italicised in the following paragraph:—The occupier of infected premises is required to destroy by burning or other effective method, and by a date to be specified in the notice, either the whole bush, *or, if he so prefer, all wood formed in the current or preceding year on the bush, which wood shall for that purpose be pruned to the satisfaction of an inspector of the Local Authority.*

The important point to be noticed here is that if this second Order is carried out *to the letter* the grower is required to cut off and burn “all wood formed in the current or preceding year on the bush.” In the Annual Report of the Intelligence Division of the Board of Agriculture for the year 1907 (which has just been published) we read the official account of this part of the new Order, and of the manner in which it was hoped it would work. As this is the essential part of the Gooseberry Mildew Orders now in force, it will be well to quote this account:—“The fungus is only found on young wood of the current or (during the winter months) of the previous season’s growth, the wood of greater age being too hard to admit of infection. If, therefore, the whole of the young wood of that nature were pruned off, not only would all the sources of infection be taken away, but also, in the case of summer outbreaks, all the shoots or branches which were capable of receiving the disease. A new Order was therefore issued in December, requiring the occupier of infected premises either to burn or otherwise destroy diseased bushes, or if he should so prefer, to prune them in the manner already described.”

Experience has now shown—as I predicted would be the case in a letter to *The Times* a year ago¹—that no systematic pruning and burning of *all the young wood* on diseased bushes has been able to be enforced in the infected districts. As a matter of fact growers with many acres of diseased bushes are now being allowed simply to tip those branches which are diseased, and are not required to cut off all young wood. From a long study of the habits of these mildews it is my firm conviction that the drastic measures embodied in the first Order are necessary if the aim is to stamp out this mildew, and also that the measures which are at present being employed will not even stop it from spreading. It may be observed that if the Government had acted seven years ago, the problem of combating this mildew—which is the most serious pest known of the gooseberry—would have been very much easier.

¹ December 23, 1907.

The next Order that was issued, on July 17, 1908, was the "American Gooseberry Mildew (Kent) Order of 1908." This, like all the existing Orders, gave the County Council no power to order a grower to destroy a diseased bush, the grower being allowed the alternative (which is practically always taken) of pruning and spraying. Acting on the advice of Wye College, the Kent County Council objected to the Order as it stood, and applied for the power (which a Local Authority is entitled to have under the "Destructive Insects and Pests Act," see page 124) to give compensation, so that their inspectors could order at any time the destruction of diseased bushes. On August 14, 1908, the Board issued the American Gooseberry Mildew (Kent) Order of 1908 (No. 2), which gives the Kent County Council powers to order, whenever they think advisable, the immediate destruction of diseased bushes, compensation (out of the rates) being paid on the scale mentioned above on page 124.

Such powers are, in my opinion, absolutely necessary for every County Council to possess, since without them it is powerless, in the event of a small and circumscribed outbreak in any part of the county, to clear that district (before this highly-infectious mildew has had time to spread) by ordering the immediate destruction of the diseased bushes. In such cases as these, under the Orders under which all other County Councils are at present acting, the grower possesses the right of choosing the alternative of merely pruning and spraying, and considering that under these same Orders no compensation is paid, it is practically certain that the grower would not consent to destroy at once the diseased bushes. I would point out, further, that the present policy of allowing Local Authorities to deal in different ways with an infectious and epidemic disease such as the American Gooseberry Mildew is essentially unscientific and uneconomic. Unless the work of fighting new plant diseases is planned as a work of *national* and not *local* importance, it is certain that much money will be wasted by County Councils, while little or no results will be obtained for the country generally.

On August 28, 1908, and October 5, 1908, respectively, the American Gooseberry Mildew (Essex) and American Gooseberry Mildew (Shropshire) Orders were issued.

On November 27, 1908, a special Order was issued, affecting parts of Norfolk, Huntingdon, and Cambridgeshire. This is entitled the "American Gooseberry Mildew (Wisbech and District) Order of 1908," and gives growers permission to move gooseberry or currant bushes if the bushes are accompanied by a licence signed by an inspector of the Board of Agriculture.

Two other Orders dealing only with the American Gooseberry Mildew have been issued. On December 14, 1907, the "American Gooseberry Mildew (Prohibition of Importation of Bushes) Order of 1907" came into force. The first clause defines the scope of this Order:—"The landing in Great Britain of any gooseberry bush or currant bush brought from any place out of Great Britain is strictly prohibited." On November 12, 1908, the "American Gooseberry Mildew (Prohibition of Importation of Bushes) Amendment Order of 1908" was issued, allowing gooseberry or currant bushes to be brought to Great Britain from the Channel Islands.

The only other Order in which the American Gooseberry Mildew is mentioned is the "Destructive Insects and Pests Order of 1908" (see next page.) Before passing on to consider the measures taken against the "Black Scab" of potatoes, a few words may be said on certain points connected with the "Destructive Insects and Pests Act" itself, and the American Gooseberry Mildew Orders which have been issued under it.

First of all, the Act itself is, apparently, defective in one important respect, since it gives the Board of Agriculture no power to take action if a Local Authority (County or Borough Council) fails to put an Order into force. Although the American Gooseberry Mildew is known to occur in both Surrey and Sussex, the respective County Councils are not proceeding to act under any Order, with the result that no local inspectors are being appointed to take the measures necessary before the pest has time to establish numerous centres of infection as it has done in the neighbouring County of Kent. Then with regard to the County of Essex, the matter has been placed in the hands of the Essex County Police—a proceeding which makes, for all practical purposes, a dead letter of the Order.

Again, the American Gooseberry Mildew Orders require the owner of "infected premises" to spray his bushes in summer with a fungicide which shall be either a solution of "liver of sulphur" or "some other fungicide approved by or on behalf of the Local Authority for that purpose." The choice of the fungicide to be used ought not to have been left to the Local Authority, but should have been kept in the hands of the Board of Agriculture, as in the case of sheep-dips. Especially unwise is this arrangement with regard to the American Gooseberry Mildew, since numberless scientifically-conducted experiments in America have shown conclusively that a *freshly-mixed solution* of "liver of sulphur" (which costs only about 1s. 6d. per 100 gallons) is the most effective spray to use. Counties like Kent which receive scientific

advice from Agricultural Colleges, do not, of course, allow any other fungicide to be used officially under the Order (though growers, of course, are free to experiment with other fluids); other County Councils, however, have already sanctioned the official use of a number of proprietary spray-fluids, in which the "liver of sulphur" is *not freshly mixed*, and is only one of several constituents. The effect of allowing the use of these proprietary fluids, which are more costly and whose properties have not been scientifically tested, must tend to stultify the working of the Order, and the Order should be altered at once, so that the Board of Agriculture alone has the power of choosing the nature of the fungicide to be used in all compulsory spraying.

We turn now to the consideration of the measures taken against the "Black Scab" of potatoes in England and in Ireland. During 1907 and the early part of 1908, in letters to the Press, and in a paper read before the "Farmers' Club," I pointed out the urgent necessity of immediate steps being taken to prevent the continued spread of "Black Scab" (known in this country since 1901), and to prevent the introduction into Great Britain of the "Black Knot" of the plum and the "Fire Blight" of the pear. On May 7, 1908, an influential deputation, convened by the National Fruit Growers' Federation, was received at the Board of Agriculture.¹ Convinced no doubt by the ample evidence brought to them on this occasion, the Board of Agriculture in their revised leaflet on the "Black Scab," have emphasised the danger threatening potato-growers in the following words:—"The disease must be treated as a dangerous enemy, which, if neglected, may entirely prevent the growth of potatoes. . . . When this disease appears it may, if neglected, spread over a farm and render the soil useless for potato-growing in the course of a few years."

On June 18, 1908, the Board issued the "Destructive Insects and Pests Order of 1908." The extent of this Order is *to make notifiable* certain diseases which are mentioned in an accompanying schedule.²

Beyond including the "Black Scab" in the schedule to this Order, no legal steps have been taken against this disease. The notification of the disease required under the Order, and the power given to inspectors to search for the disease, though

¹ An account of the proceedings will be found in the Journal of the South Eastern Agricultural College (Wye), Vol. XVII., page 300.

² *Insects*: The Vine Louse, the San José Scale, the Mediterranean Fruit-fly, the Colorado Beetle, the Large Larch Saw-fly. *Fungi*. Black Knot, White Root Rot, Black Scab or Warty Disease of Potatoes, the American Gooseberry Mildew. It is to be noted in passing that the "Fire Blight" of the pear is not included. Fruit-growers should press for the inclusion of this.

necessary as preliminary steps, *will not in themselves be of the slightest avail in stopping its spread.*

At present, when outbreaks are discovered, the Board *advise* the grower to take certain precautions, but have no legal powers to prevent him from selling diseased "seed."

The Irish Department of Agriculture have taken resolute steps. By virtue of an Order issued on October 1, 1908, entitled the "'Black Scab' in Potatoes (Ireland) Order of 1908," a grower, besides being required to notify the disease, is then required to adopt the following measures:—

1. All diseased tubers and the haulms (if any) belonging thereto, as well as all packing material and packages at any time used for the storing or conveying of such potatoes, shall be immediately destroyed on the spot by burning or other effective method prescribed by the Department.

2. No potatoes, or potato haulms, shall be removed, or be permitted to be removed, out of the area defined in the notice except with and subject to the conditions (if any) of a licence signed by an inspector of the Department or other authorised officer permitting such removal.

3. Potatoes shall not be again planted or sown on the affected land without the sanction of the Department.

4. No affected soil shall be removed from one part of a farm either to another part of the same farm, or to another farm, whether within or without the affected area.

A further provision is also made as follows:—"It shall not be lawful to land in Ireland any potatoes diseased, or suspected of being diseased, brought from any place out of Ireland."

Full powers of entry are given to inspectors of the Department, and penalties prescribed for offences against the Order. Among the latter may be noted that of failing "to give to an inspector or other authorised officer, or to the Department when required to do so, information as to the place of origin of any potatoes diseased or suspected to be diseased."

In November last the "Black Scab" was first reported from Ireland. The following extract from a letter written by the Secretary to the Department of Agriculture for Ireland shows how the matter was dealt with:—"I have to state that three cases of Black Scab in potatoes have been discovered in this country, and these cases were found in two districts situated on the east coast of County Down. All the diseased tubers have been destroyed in compliance with a notice served by the Department under the 'Black Scab in Potatoes (Ireland) Order, 1908.'"

If Government had chosen to bring in and pass the Destructive Insects and Pests Act previously to 1901, our Board of Agriculture would have been placed in a position to have acted

when but few cases were known. Could prompt action then have been taken, potato-growers would not now be faced with a danger of such magnitude. But although this procrastination has made the work much more difficult, *it must be undertaken now in earnest and carried through.* Acting on the advice of its Pests Committee, the Central Chamber of Agriculture have urged the Board of Agriculture to apply the Irish Order to Great Britain. All agriculturists should give hearty support to this movement, for the effect will be disastrous if this Black Scab disease is allowed to reach Lincolnshire and other centres of potato-growing and is not at once stamped out. Foreign countries are alive to the danger, and already Malta has closed its ports to all potatoes from Great Britain unless they are accompanied by "a certificate from an officer of the Board or Department of Agriculture stating that they are free from Black Scab and were not grown on land infected with that disease."

It should be noted, also, that Farmers' Clubs in Ireland have already begun to ask for the total prohibition of potatoes from Great Britain in view of the spread of Black Scab in this country. Indeed, all countries will be wise in refusing potatoes from England and Scotland if the spread of this disease is allowed to continue as it has done during recent years.

The last Order to be mentioned is the "American Gooseberry Mildew and Black Currant Mite (Ireland) Order, 1908," issued on February 24, 1908. So far as I can hear, this Order became somewhat of a dead letter directly it was issued; due no doubt to the fact that the mildew (introduced about 1900) had by 1908 spread practically all over Ireland.

If now we view what has been done during 1907 and 1908 to protect the crops of agriculturists against pests, we find important legislation being brought to bear on the subject. But this legislation is stultified to a large extent by the want of public opinion demanding that our Board of Agriculture be liberally equipped with men and money to carry out the necessary work. A State *agricultural* mycologist, entomologist, and chemist are required in this country, such as we find in the United States and also in Canada and our other Colonies. Until such official scientific assistance is available, the proper administration of the "Destructive Insects and Pests Act" can hardly be looked for, with the result that agriculturists will suffer heavy losses through the attacks of new or recently-established pests.

ERNEST S. SALMON.

Wye, Kent.

December, 1908.

THE LATE EARL OF DERBY.

BY the death of Frederick Arthur Stanley, K.G., G.C.B., G.C.V.O., sixteenth Earl of Derby, the Royal Agricultural Society has lost one of its most active and generous supporters, and the agricultural community generally a sympathetic and kind friend. The late Lord Derby held many of the high offices of the State, including the Governor-Generalship of Canada, in which office he succeeded the present Marquis of Lansdowne in 1888. During his term of office, which extended to 1893, the Governor-General was brought into close association with the agriculture of Canada, and gained much experience there, which his Lordship found most serviceable on his succession to the title and to the vast family estates on the death of the fifteenth Earl in the year 1893.

His estates in Lancashire and Cheshire extended to about 70,000 acres, and in addition he owned some 9,000 or 10,000 acres in the counties of Kent and Surrey. In the management of his property the late Lord Derby took the greatest personal interest, and he made a practice of attending the two rent audit dinners held at Knowsley annually at Christmas; in fact he never once missed being present at these functions during the fifteen years of his possession. In addition to the Knowsley rent audit dinners, he also frequently attended those on the Fylde, Macclesfield, and East Lancashire estates. He was most liberal in the administration of his property, and his opinion was that his tenantry should have good and sufficient accommodation for the working of their holdings, but that when they had obtained this they should do their best to keep things in good order. It is acknowledged by all those who are acquainted with the estates that their condition was vastly improved during the late Earl's possession, and his tenantry gratefully recognised the heavy expenditure he had incurred on their behalf.

In 1895 Lord Derby was elected a Member of the Council of the Royal Agricultural Society of England, becoming subsequently in 1900 a Vice-President, and in 1901 a Trustee of the Society. He served on the Journal, Veterinary, and Dairy Committees, and frequently presided over the General Show Committee.

On the occasion of the Society's visit to Lancashire in 1897, Lord Derby took a very prominent part in that most successful Show, which was held at Manchester in the Diamond Jubilee year of Queen Victoria, under the Presidency of His Royal

Highness the Duke of York, K.G., and, not only as a Member of the Council, but as a Member of the Local Committee and a subscriber to its funds, his Lordship did much to ensure the success of the Show.

The Presidency of the Society was undertaken by Lord Derby for the year 1904, in succession to H.R.H. the Prince of Wales, and he was indefatigable in his efforts to promote the success of the Society in every sphere of its operations. The generous support accorded by Lord Derby was emphasised by his handsome subscription of 5,000*l.* to the Permanent Show Fund, and later by a generous donation of 250*l.* to the fund which was raised to enable the Society to hold the third Show at Park Royal in the year 1905.

Lord Derby was possessed in a remarkable degree of the faculty for presenting his views on any question under discussion in an exceptionally lucid manner, and in this respect he rendered great service to the Members at the General Meetings held in connection with the proposals for applying for the grant of a Supplemental Charter, under which the Council would in future be elected by the Members. The services of Lord Derby to the Royal Agricultural Society of England will long be remembered by the Members and by his Lordship's colleagues on the Council, and it is a matter for sincere congratulation that the present Earl has been elected a Vice-President of the Society, and has already shown that he is desirous of maintaining the interest of the House of Stanley in the welfare of the agriculture of the country.

THE NEWCASTLE SHOW, 1908.

To Newcastle-on-Tyne now belongs the unique distinction of having been on no less than four different occasions the venue of the Society's annual Show, the visits to the city on Tyneside before 1908 having taken place respectively in the years 1846, 1864, and 1887. Carlisle has received the Society three times, in 1855, 1880, and 1902, and Darlington once, in 1895; so that eight Shows in all have now been held in the northern district of England. For purposes of comparison, some particulars of these eight shows are brought together in the subjoined table :—

Year	Place of Meeting	President	Imple- ments entered	Entries of live stock	Amount of Prizes	Persons paying for admission	Financial Result (+ = Profit — = Loss)
					£		£
1846	Newcastle	Lord Portman	735	613	1,391	Norecord	— 2,138
1855	Carlisle	Mr. Wm. Miles, M.P. . .	1,314	808	2,175	37,533	— 860
1884	Newcastle	Lord Feversham	4,024	1,099	3,195	114,683	+ 1,342
1880	Carlisle	9th Duke of Bedford . .	4,196	1,485	5,881	92,011	— 538
1887	Newcastle	Lord Egerton of Tatton .	3,616	1,825	6,760	127,372	— 2,029
1895	Darlington	Sir J. H. Thorold, Bt. . .	5,855	1,703†	5,603	100,310	+ 653
1902	Carlisle	H.R.H. Prince Christian .	3,916	1,911	6,070	93,187	— 2,898
1908	Newcastle	Duke of Devonshire . . .	4,481	2,619	10,560	213,867	+ 10,054

† No Pigs Exhibited.

Taking the first seven of the above Shows, five resulted in an aggregate loss of 8,463*l.*, while the remaining two yielded a profit of 1,995*l.* The net loss on the whole seven was therefore 6,468*l.*, or an *average annual loss* of 924*l.* The unprecedented result of the last Newcastle Meeting, however, brings the total of the profitable North Country Shows up to 12,049*l.*, so that if the losses of 8,463*l.*, mentioned above, be deducted from this figure, a balance of 3,586*l.* is shown, which, spread over the eight Shows, gives an *average annual profit* of 448*l.* 5*s.*

In accordance with the practice which has now become an established custom, the members of the Northumberland Agricultural Society abandoned their own local show of 1908, and joined forces with the National Society. The privileges of free admission to the Show and reduced fees for entries of live stock were accorded to members of the County Agricultural Society, who held a "One Day" exhibition in the Showyard on the Friday. Similar privileges were also extended to the Members of the Durham Agricultural Society, who made a contribution towards the Prize fund.

SHOW OF 1887.

The previous Show at Newcastle was, as will be remembered by many, held during the Mining and Industrial Exhibition of 1887, and was honoured by the presence of H.M. The King (as Prince of Wales) and his two sons, the present Prince of Wales and the late Duke of Clarence and Avondale, who during the week were the guests of the late Viscount Ridley, at Blagdon Hall.

It was in 1887 that the Society inaugurated the Spring Show of Thoroughbred Stallions. Five equal premiums of 200*l.* each were offered, together with a Special Gold Medal, for thoroughbred stallions (3 years old and upwards) suitable for getting hunters and other half-bred horses, subject to the condition that each stallion winning a premium should serve not less than 50 half-bred mares, if required, during the season, and should stand or travel (at the owner's option) in such parts of Northumberland, Durham, Cumberland, and Westmorland as should be specified at a fee not exceeding 50*s.* for each mare, except to Members of the Society, to whom the fee would be 2*l.* A range of buildings erected in connection with the Mining Exhibition was utilised for the purpose of the Show, which took place on January 25, 1887. Forty-five horses were entered, seven of these however were sent for exhibition only and not for competition. Later in the year 1887, the Royal Commission on Horse-Breeding was appointed, and its first Show was held in conjunction with the Society's Spring Show of Thoroughbred Stallions at Nottingham in 1888.

While dealing with the 1887 Show, it may here be mentioned that the Society commenced in this year the Competitions for Shoeing Smiths, which have become since that time quite a feature of the Showyard. The Society's operations in this direction, with the co-operation of the Worshipful Company of Farriers, have undoubtedly helped to raise the standard of Shoeing Smiths all over the country.

THE SHOWYARD.

By the courtesy of the Freemen of Newcastle, a site for the 1908 Show was provided in the City upon the spacious Town Moor, the scene of earlier "Royal" Shows. About 105 acres were enclosed for the Society's requirements, and the familiar Main Entrance Buildings (which first did duty at the Newcastle Meeting of 1887) were erected at the southern end of the ground, facing Park Terrace, with approaches, on the one side, from the North Road, and, on the other, from Claremont Road, along both of which thoroughfares there were excellent services of electric tram cars.

The ground, which had been prepared by the Local Committee, was wonderfully even, and altogether the excellent site has never been surpassed from the point of view of utility, although on some occasions the Showyard may have been situated in more picturesque surroundings. The gradual rise of the ground from the entrances showed up the Implement Sheds to the best advantage, and the level portion in the centre of the Yard admitted of the provision of a splendid Large Ring, facing which were the three Pavilions. The Royal Pavilion was decorated and furnished by Messrs. Robson & Sons, Ltd., of Newcastle, and their treatment of the building was most successful. The Reception Room was furnished as a Hall in Jacobean style, beautifully panelled in oak, and the Retiring Rooms were fitted up in harmony with this arrangement. The Floral Decorations of the Pavilions and other parts of the Showyard were carried out by Messrs. William Fell & Co., Ltd., of Hexham.

EVENTS OF THE WEEK.

Owing to the fact that the usual time for the Show, *i.e.*, the week after Ascot, had been fixed upon for both the Annual Temperance Fête on the Town Moor and the Summer Race Meeting at Gosforth Park, the Show was opened a week later than customary, *viz.*, on Tuesday, June 30, closing on the following Saturday, July 4.

The judging of live stock was commenced at 9 o'clock on June 30, and continued throughout the whole of the day. The arrangement adopted at Lincoln of completing the veterinary examination of the horses before the commencement of the judging, was again carried out, and worked very smoothly under the supervision of the Steward, Mr. Cyril Greenall. Horses certified to have been passed as sound at the London Spring Shows were not re-examined in the Newcastle Showyard.

A noteworthy event of the day was the visit of a party of about fifty agriculturists representing the National Agricultural Society of Hungary, who arrived in England on June 15, and who had been making a tour of England and Scotland inspecting typical farms, breeding establishments, and experimental stations. These distinguished visitors took the greatest interest in the Exhibits, and spent two days at the Show, being entertained to luncheon by the President on the opening day. The Chairman of the party, Count Esterhazy, expressed the pleasure their visit to this country had afforded them, and acknowledged the kindness of all those noblemen and gentlemen whose estates they had visited, and to whom they were indebted for their very hospitable reception.

The principal event of Wednesday was the visit of their Royal Highnesses the Prince and Princess of Wales, who, as the guests of the Duke and Duchess of Northumberland, at Alnwick, had arrived in the north on the previous Monday.

Their Royal Highnesses travelled from Alnwick by motor car, stopping on the way at Morpeth to receive an address. On arrival at the Showyard at about 12.30 p.m., the Royal Party were met at the gates by the Honorary Director (Sir Gilbert Greenall), who escorted them to the Royal Pavilion, where they were received by the President (the Duke of Devonshire) and other members of the Council. A small party of Crimean and Indian Mutiny veterans (in charge of Major Thompson of the Corps of Commissionaires) having been inspected, Their Royal Highnesses made a tour of the Show-ground in an open carriage. The Prince and Princess afterwards honoured the President and Council with their company at Luncheon in the Royal Pavilion. The guests at this function also included the Duchess of Devonshire, the Duke of Northumberland, the Lord Mayor and Lady Mayoress, and other residents and officials in the City and County.

After luncheon, their Royal Highnesses were shown a selection of prize cattle, and a number of implements and appliances to which the Society's Silver Medal had been awarded since the year 1905, when the Prince of Wales last visited the Show. The party then drove to the Agricultural Education and Forestry Exhibition and to the Horticultural Exhibition, and having inspected the exhibits here, they were later conducted by the Honorary Director round the large Horse Ring to the Royal Box in the Grand Stand, where they remained for some time watching the jumping competitions. The Royal Visitors left the Showyard by motor about 4.15 p.m., having spent nearly four hours in the Showyard.

In the evening the Lord Mayor of Newcastle entertained the President and Members of Council of the Society at a Banquet in the Large Hall of the Armstrong College.

The General Meeting of Governors and Members of the Society was held at noon on Thursday, at which His Grace the Duke of Devonshire, as President, took the Chair. The first business of the meeting was the presentation of the Cups, Medals, Prizes, and Certificates to the successful competitors in the Ploughing Competitions. The awards in the Farm Prize Competition were also announced at this meeting. (A full report of the proceedings at the General Meeting will be found in the Appendix—See pp. xxxvii. to xl.)

On Thursday the bulk of the catalogues had been sold, so great had been the demand, and to meet the requirements of

the visitors on the remaining days, the full List of the Awards of Prizes was sold in the Showyard.

The visit of Their Royal Highnesses on the Friday was of an official character, the procession including the Lord Mayor and Sheriff of Newcastle and other representatives of the City, together with the Lord Lieutenant of the County (the Duke of Northumberland), the Duchess of Devonshire, and other members of the Alnwick Castle house party.

On arrival at the Showyard, about 3 o'clock, the Prince and Princess were met at the entrances by the Honorary Director and received by the President at the Royal Pavilion. Visits were paid to the Working Dairy and the Wool Shed. Winners in the different sheep classes were next inspected, after which a visit was paid to the *Newcastle Chronicle* Pavilion, in front of which were drawn up the ploughs used by the Champion prize winners in the Ploughing Competitions held early in the year. Their Royal Highnesses then proceeded to the Royal Box at the Large Ring, where they witnessed the parades, &c. The Royal party left the Showyard at 4.30 p.m. and proceeded to Gosforth to visit the Cripple's Home, of which Institution the Lord Mayor of Newcastle was Chairman.

The Northumberland Agricultural Society's local classes, comprising exhibits of cattle, horses, and sheep, were judged on the Friday.

On the last day, Saturday, the Trials of Sheep Dogs were carried out in the Large Ring, and the Pit Ponies were judged. In the afternoon a Brass Band Contest was held under the auspices of the Local Committee.

It was the custom a few years ago, when the Show closed on a Friday evening, to arrange a series of sports on the Saturday for the Police engaged during the Meeting. This practice was, to a certain extent, revived this year by the offer of prizes for a Tug-of-War. In addition to the Metropolitan and Newcastle Police, teams also came from Gateshead, Wallsend, and Gosforth; the latter team, which was an excellent one, finally being victorious.

The Band of the Northumberland Hussars, conducted by Mr. H. G. Amers, performed selections of music in the Bandstand during the first four days of the Show.

THE ATTENDANCE.

At the commencement of the Show no rain had fallen for about a week at Newcastle, and the Society were exceedingly fortunate in having a continuance of beautiful weather, with a great wealth of sunshine. The only rain during the week was a slight shower which fell about one o'clock on the Saturday, after a somewhat dull morning. The climatic conditions were

almost all that could have been desired, and presented a strong contrast to the exceptionally wet weather which was experienced at Carlisle when the Show was held there in 1902.

The tables set out below give the actual figures of the attendances at different hours during the recent Show, and a comparison is made between the last two Newcastle Shows, 1887 and 1908, and with the six Shows held from 1902 to 1907.

(1) *Admissions by Payment at Newcastle, 1908.*

Day of Show	11 a.m.	1 p.m.	3 p.m.	5 p.m.	Day's total
Tuesday (5s.)	1,047	1,701	2,208	2,378	2,397
Wednesday (2s. 6d.)	12,093	20,954	28,857	31,889	32,142
Thursday (2s. 6d.)	10,983	19,479	26,553	28,575	28,880
Friday (1s.)	30,958	54,509	81,414	97,007	98,489
Saturday (1s.)	17,479	30,522	45,144	51,353	51,959
Total Admissions					213,867

(2) *Total daily admissions at Newcastle, 1908, compared with previous six Shows and Newcastle 1887.*

Prices of Admission	Newcastle, 1908	Lincoln, 1907	Derby, 1906	Park Royal, 1905	Park Royal, 1904	Park Royal, 1903	Carlisle, 1902	Newcastle, 1887
Implement Yard only (2s. 6d.)	—	—	—	—	—	—	2,372	1,209
Five Shillings	2,397	1,680	2,752	—	2,011	2,685	2,321	1,097
Half-crown	32,142	22,835	25,666	2,770	9,375	12,057	7,550	11,331
Half-crown	28,880	22,725	—	7,684	10,912	11,403	15,398	12,020
One Shilling	98,489	51,888	46,055	7,754	14,175	20,569	46,242	77,410
One Shilling	51,959	33,878	44,670	5,770	16,457	18,299	19,304	24,305
Totals	213,867	133,006	119,143 ¹	23,978 ²	52,930 ³	65,013	93,187	127,372

¹ Derby, 1906—Only one Half-crown day.

² Park Royal, 1905—No Five Shilling day; third day, price of admission (2s. 6d.) reduced to 1s. after 3 p.m.

³ Park Royal, 1904—Second and third days, price of admission (2s. 6d.) reduced to 1s. after 4 p.m.

On the occasion of the first visit of the Prince and Princess of Wales on the Wednesday, when the charge for admission was 2s. 6d., the number of visitors, 32,142, was larger than on any half-crown day at any previous Show of the Society. When Their Royal Highnesses paid their official visit to the Show on the Friday (the first shilling day), the traffic had to be stopped for some time before the procession arrived, and as a consequence a tremendous crowd of persons on their way to the Showyard collected at the approaches on either side of the entrance. When the doors were again opened after the arrival of the Royal procession, the ten turnstiles at the entrances proved

wholly inadequate for the admission of the vast numbers of people who were struggling to get into the Yard. Mr. Richardson Carr (Steward of Finance) pressed into service all the officials that could be found, stationing them at the various ticket entrances and doors, with bags to take the shillings from those who came through. During the day 98,489 persons were admitted by payment into the Showyard, this being the largest daily attendance on record. The previous largest one day attendance was at Nottingham, in 1888, when 88,832 persons were admitted into the Showyard on a shilling day. The total of 213,867 for the whole Show falls short of the aggregate for the Manchester Meeting held in the Diamond Jubilee year, 1897. On that occasion a total of 217,980 persons paid for admission to the Show, which, however, was open for six days, as against five at Newcastle.

PRIZE SHEET AND ENTRIES.

The total value of the prizes offered (inclusive of Champion Prizes, Special Prizes, and Medals) was 10,560*l.*, a sum which has only twice been exceeded, namely, at the International Shows held by the Society at Kilburn in 1879 and at Windsor in 1889, and which is nearly 2,000*l.* more than was offered at the Lincoln Show of 1907. Of the total amount, a sum of 2,176*l.* was contributed by the various Stud, Herd, and Flock-Book Societies, 2,002*l.* by the Newcastle Local Committee, 300*l.* by the Northumberland and Durham Agricultural Societies, and 281*l.*—for local classes—by the Northumberland Agricultural Society.

The following is a statement of the entries for the 1908 Show as compared with the Shows of the seven preceding years and the three previous Newcastle Shows:—

Live Stock, Poultry, and Produce.

	New- castle, 1908	Lincoln, 1907	Derby, 1906	Park Royal, 1905	Park Royal, 1904	Park Royal, 1903	Carlisle, 1902	Cardiff, 1901	New- castle, 1887	New- castle, 1864	New- castle, 1846
Horses . .	1664	1506	1563	1372	1365	422	521	355	493	164	60
Cattle . .	1948	11,030	1926	898	867	944	667	553	628	381	192
Sheep . .	1695	1672	1564	591	525	520	545	519	509	418	268
Pigs . .	312	368	266	252	227	222	178	148	195	136	93
Total . .	2,619	2,576	2,319	2,113	1,984	2,108	1,911	1,575	1,825	1,099	613
Poultry . .	768	826	811	871	603	763	653	701	404	—	—
Produce . .	416	572	525	493	544	609	461	521	347	—	—

¹ Exclusive of Double Entries.

² Exclusive of Draught Horses and the Harness Classes.

The figures in the subjoined table show the amount of shedding allotted in the Implement Department compared with the seven preceding years and the Newcastle Show of 1887.

Shedding in Implement Yard.

Description of Shedding	Newcastle, 1908	Lincoln, 1907	Derby, 1906	Park Royal, 1905	Park Royal, 1904	Park Royal, 1903	Carlisle, 1902	Cardiff, 1901	Newcastle, 1887
Ordinary	Feet 6,490	Feet 7,650	Feet 7,818	Feet 6,590	Feet 7,630	Feet 9,360	Feet 6,693	Feet 7,245	Feet 5,508
Machinery . .	2,585	2,165	2,520	1,750	2,060	2,670	2,079	2,305	1,125
Special (Seeds, Models, &c.)	2,960	3,251	2,692	1,629	2,032	2,555	2,321	2,101	1,584
Total [Exclusive of open ground space]	12,035	13,066	13,030	9,969	11,722	14,585	11,093	11,651	8,217
No. of Stands.	389	417	424	289	350	456	340	358	283

A detailed comparison of the classes, entries, &c., at the last two Newcastle Meetings will be found on the opposite page.

AUCTIONS.

The amounts realised at the sales by auction show, on the whole, a considerable falling off, the horse sales being the only section where there was an increase over last year. The restrictions imposed by the Argentine Republic, owing to the outbreaks of foot-and-mouth disease in Scotland early in the year, on the importation of Scotch cattle, and of animals which had been in contact with animals from Scotland—in which latter category were included all the English exhibits at Newcastle—undoubtedly caused a disinclination on the part of shippers to buy animals which would have to be kept on hand for a considerable time, until the restriction was withdrawn by the Argentine Government. All possible measures were taken by the Council of the Society to obtain special permission for animals purchased at the Show to be forthwith shipped to the Argentine; and such special permission was at length granted, although no official intimation of the fact had reached the Society by the close of the Show.

The following table gives the amounts realised respectively for horses, cattle, sheep, and pigs at the Shows of the last three years:—

	Derby, 1906			Lincoln, 1907			Newcastle, 1908		
	£	s.	d.	£	s.	d.	£	s.	d.
Horses	123	18	0	347	11	0	552	6	0
Cattle	10,034	6	6	8,707	13	0	7,445	0	6
Sheep	2,045	18	6	2,027	19	6	1,574	9	6
Pigs	572	5	0	951	19	3	243	1	6
Total	12,776	8	0	12,035	2	9	9,814	17	6

**COMPARATIVE STATEMENT OF ENTRIES, ETC.,
AT THE TWO MEETINGS HELD AT NEWCASTLE IN 1887 AND 1908.**

IMPLEMENTS—Stands **1887 (July 11-15)** **1908 (June 30-July 4)**
. 283 389

HORSES AND CATTLE	1887		1908		SHEEP, PIGS, POULTRY, PRODUCE	1887		1908	
	Classes	Entries	Classes	Entries		Classes	Entries	Classes	Entries
HORSES:—					SHEEP:—				
<i>Prizes</i>	—	£2,103	—	£3,421	<i>Prizes</i>	—	£1,275	—	£1,762 10s.
Hunters	11	139	10	101	Oxford Down	4	26	4	45
Polo Ponies	—	—	5	28	Shropshire	4	101	7	124 ¹
Cleveland Bays or					Southdown	4	46	6	64
Coach Horses	3	35	4	19	Hampshire Down	4	42	5	31
Hackneys	6	34	9	62	Suffolk	4	22	6	24
Ponies	8	36	4	16	Dorset Horn	—	—	4	21
Highland or Fell					Ryeland	—	—	3	10
Ponies	—	—	2	5	Kerry Hill	—	—	4	13
Dales Ponies	—	—	2	7	Other Short Wools	3	7	—	—
Shetland Ponies	—	—	2	17	Lincoln	4	28	7	53
Shire	8	84	9	76	Leicester	4	43	4	24
Clydesdale	8	90	8	81	Border Leicester	4	46	3	76
Suffolk	5	21	5	29	Wensleydale	—	—	4	22
Agricultural					Kent or Romney				
Horses	8	54	5	32	Marsb	—	—	5	66
Pit Ponies	—	—	2	15	Cotswold	4	15	4	21
Riding Classes	—	—	8	110	South Devon	—	—	2	7
Harness Classes	—	—	15	136	Cheviot	4	46	4	37
Jumping	—	—	5	73	Lonk	3	9	3	11
					Herdwick	4	26	3	13
					Welsh	—	—	2	10
					Black-faced				
Total for HORSES	57	493	95	807 ¹	Mountain	4	33	5	62
					Other Long Wools	3	19	—	—
CATTLE:—					Total for SHEEP	57	509	85	734 ¹
<i>Prizes</i>	—	£2,205	—	£2,799	PIGS:—				
Shorthorn	8	110	15	372	<i>Prizes</i>	—	£360	—	£770 5s.
Lincolnshire Red					Large White	4	54	6	83
Short-born	—	—	8	38	Middle White	4	36	6	35
Hereford	7	76	6	49	Small White	4	24	—	—
Devon	5	31	5	27	Tamworth	4	22	6	28
South Devon	—	—	5	28	Berkshire	4	39	6	61
Longborn	—	—	3	9	Large Black	4	20	6	64
Sussex	5	27	5	23	Lincolnshire				
Welsh	—	—	5	21	Curly-coated	—	—	6	41
Red Poll	5	30	6	41	Total for PIGS	24	195	36	312
Aberdeen Angus	6	69	8	81	TOTAL FOR STOCK	202	1,825	—	—
Galloway	6	65	5	51	POULTRY:—				
Highland	2	8	4	8	<i>Prizes</i>	—	£312	—	£199 15s.
Ayrshire	5	32	6	27	Entries	52	404	99	768
Jersey	6	100	8	94	PRODUCE:—				
Guernsey	5	33	6	21	<i>Prizes</i>	—	£211	—	£249 15s.
Kerry	2	25	4	23	Entries	26	347	49	416
Dexter	—	—	5	28					
Dairy Cattle	2	22	—	—					
Milk Yield	—	—	11	93					
Butter Test	—	—	2	28					
Total for CATTLE	64	628	106	1,062 ¹					

Grand Totals for { **1887** **280 Classes** **2,576 Entries** **£6,973² Prizes**
LIVE STOCK, POULTRY, { **1908** **465 „** **4,099 „** **£10,560³ „**
and PRODUCE.

Animals exhibited in more than one class are here counted as separate entries.

² Including £475 for Farm Prizes.

³ Including £260 for Farm Prizes, £281 for Local Classes, £32 for Implements, £250 for Horticultural Exhibition, £567 for Competitions.

IMPLEMENT DEPARTMENT.

The report of the Judges on the Trials of Manure Distributors held in connection with the Show will be found on pp. 173 to 182, and the Report on the Miscellaneous Implements on pp. 182 to 188.

DESCRIPTION OF EXHIBITS.

The particulars given in the following pages are, for the most part, based upon the reports furnished by the Judges of the various classes. A complete list of the awards, with full information as to the exhibitors, breeders, pedigrees, &c., of the prize-winning animals, is included in the Appendix to this Volume, preceded by the names of the Stewards and Judges in the different departments (see pp. liii. to cxxx.).

Illustrations having been given in the last Volume of all the champion animals at Lincoln—horses, cattle, sheep, and pigs—it has been thought well to revert to the system previously in vogue of dealing with only one section each year. Accordingly, on the present occasion, only the champions in the horse classes appear.

HORSES.

This section was a particularly strong one, the entries, numbering 664 (excluding double entries) being more numerous than at any Show since the York Meeting of 1900, when there was an entry of 696 horses. The Hunters, of which there were 101, were present in strongest force, and, as might well be expected at Newcastle, the Clydesdale classes were better filled than usual, the entries of this breed numbering 81. The Shires totalled 76, and the Hackneys 62. The entries in the Driving classes were 98, and in the Riding classes (Hunters, and Polo and Riding Ponies) 81, *exclusive of entries under other headings*.

Hunters.—Classes 2, 4, 7, and 10 were considered by the Judges particularly good. The other classes were not so strong, but there were some beautiful animals in them. Mr. T. L. Bennett's *Sermon* was an outstanding animal. The Hunter's Improvement Society's Gold Medal (1) for the best filly in Classes 4, 5, and 6, was awarded to Lord Middleton's *Modwena* (see Fig. 1), and (2) for the best mare in Classes 7 and 8, to Mr. E. W. Robinson's *Golden Leaf* 2896 (see Fig. 2). There were many entries of high class and of great value in the Riding classes (62 to 69), and great difficulty was experienced in adjudicating in certain classes where such a difference of weight, as between 12 and 14 stones, had to be considered. The Judges would have liked to have seen a little more quality in the majority of the exhibits entered to carry more than 14 stones.



FIG. 1.—HUNTER FILLY, "MODWENA."

*Winner of Champion Prize for best Hunter Filly not exceeding 3 years old, Newcastle, 1908.
Exhibited by LORD MIDDLETON.*



FIG. 2.—HUNTER MARE, "GOLDEN LEAF."

*Winner of Champion Prize for best Hunter Mare, 4 years and upwards, Newcastle, 1908.
Exhibited by MR. E. W. ROBINSON.*



FIG. 3.—POLO AND RIDING PONY STALLION, "SPANISH HERO."
Winner of Champion Prize for best Polo and Riding Pony Stallion or Colt, Newcastle, 1908.
Exhibited by MR. STEPHEN MUMFORD.



FIG. 4.—POLO AND RIDING PONY MARE, "ACTRESS."
Winner of Champion Prize for best Polo or Riding Pony Mare or Filly, Newcastle, 1908.
Exhibited by SIR JOHN BARKER, BART., M P.

Polo and Riding Ponies.—There were some very good exhibits in Classes 11 and 12, and the Judges observed that great care had been taken in trying to breed to type. The Male Championship was secured by Mr. Stephen Mumford for *Spanish Hero* 372 (see Fig. 3), the Female Championship going to *Actress* 1560 (see Fig. 4), the property of Sir John Barker.

Cleveland Bays and Coach Horses.—The Judge reports that the entries in some of the classes fell short of what might have been hoped for, but the quality all round was excellent. The stallion class (16) was a good one, eight sound promising young horses coming into the ring. The winner, Mr. John Lett's *Rillington Surprise*, was a horse of fair quality and character and used his shoulders well, and the second prize horse, Mr. George Elders' *Aislaby Hero* 1696, was very similar in character. The third, *Kitching's Lightfoot* 2472, was a short-legged horse built on rather strong lines; the reserve horse was also powerful, and looked like making a valuable stallion for certain class mares. Three-year-old fillies (Class 17) were very good. Mr. George Grandage's *Woodland Glade* 1106, the winner, was particularly stylish and a fine mover; the other two were also very promising young fillies. It was a matter of regret that nothing opposed *Woodland Queen* 1126, the winner in the two-year-old class. She is built on correct lines and should make a brood mare. The brood mares (Class 19) were well bred and all of the highest character. The winner, *Woodland Briar* 1318, was the most stylish of the three and had the most stylish foal. The second, *Madeline* 1265, was a more powerful mare and had a very good foal at foot. The third prize mare, *Aislaby Beauty* 1169, was stylish and a fine mover, but had a backward foal. There was not much between the three.

Hackneys.—These classes as a whole were good. Class 20 (stallions foaled in 1907) was fair, the first and second both being good colts. Class 21 (stallions foaled in 1906) was poor, with the exception of the first and second prize winners, and Class 22 (stallions foaled in 1905) was fair. The winner in Class 21, *Flash Cadet* 10203 (see Fig. 5), also obtained Champion honours as the best stallion. Class 23 (fillies foaled in 1907) was a very good one, the first three being fine mares. Class 24 (fillies foaled in 1906) was a good class, with plenty of action in it. There was very little to choose between the first and second animals in Class 25 (fillies foaled in 1905), which was excellent. Class 26 (mares, with foals, over 14 and not exceeding 15 h. 2 in.) was a very good one, and Class 27 (mares, with foals, over 15 h. 2 in.) contained two good animals, the first, *District Maid* 15039 (see Fig. 6) being later awarded the Champion Gold Medal for the best mare or filly. Class 28

(foals, the produce of mares in Classes 26 and 27) was only moderate. The Hackney Ponies (Classes 29-32), taken as a whole, were only a moderate lot.

Shetland Ponies.—The stallions (Class 33) were a very fair representation of the breed, and all the animals shown were of considerable merit, especially the first prize winner, *Seaweed* 333 (see Fig. 8), who was awarded the Silver Medal for best stallion. The Judge noticed, however, that since these ponies have become dispersed amongst various breeders, the same ideal type of pony is not followed as closely as it was by Lord Londonderry when he was almost the sole breeder of the selected and improved type. This is only a natural consequence, as all breeders do not have the same ideal type of pony in their minds when they are selecting and breeding them. The mares (Class 34) were few in number. Showing mares with foals at foot and barren mares in the same class made it difficult to compare them, but both the mares with foals at foot were of outstanding quality. One of the barren mares was an extra good one, and, but for the fact that she was going lame, would have been in the prize list.

Highland and Dales Ponies.—The Highland Ponies (Classes 35 and 36) were rather a mixed lot. Breeders of these ponies have not proceeded so far as to make a marked type of their kind. If it could be impressed upon those breeders that they should aim at a fixed type in the same way that Lord Londonderry did with the Shetland Ponies, the type and quality would soon show a marked improvement. The remarks about Highland Ponies are also applicable to Dales Ponies (Classes 37 and 38). There were at least two Dales Ponies of outstanding merit, but some of the others looked quite a different type of pony.

Harness Horses.—There were nine classes for horses driven in single harness, one "Pace and Action" class, two classes for pair in double harness, two for pairs driven tandem, and one class for four-in-hand teams shown before a coach. The Hackney Horse Society's Gold Medal for the best mare or gelding driven in single harness, the produce of a Registered Hackney Stallion, was awarded to Miss Dora Schintz for *Morocco* (see Fig. 15), a chestnut gelding sired by "Revival 7263," Mr. J. H. Hodkinson's *Fylde Sabrinetta* 14341 being Reserve Champion. There were four entries in the class for teams, but only two were present. The Challenge Cup went to Miss Ella S. Ross for her team of blacks. (See Fig. 16).

Shires.—The first prize stallion in Class 39, *Pendley Champion*, exhibited by Mr. Martinez-de-Hoz, was an exceptionally good colt and looked like making a sire. The second, Earl Egerton's *Tatton Prior*, was a growing colt shown in poor



FIG. 5.—HACKNEY STALLION, "FLASH CADET."
Winner of Champion Prize for best Hackney Stallion, Newcastle, 1908.
Exhibited by SIR WALTER GILBEY, BART.



FIG. 6.—HACKNEY MARE, "DISTRICT MAID."
Winner of Champion Prize for best Hackney Mare or Filly, Newcastle, 1908.
Exhibited by MR R. P. EVANS.



FIG. 7.—HACKNEY PONY FILLY, "SEAHAM NORAH."
Winner of Special Prize for best Hackney Pony Mare or Filly, Newcastle, 1908
Exhibited by MR. JOHN FORBES.



FIG. 8.—SHETLAND PONY STALLION, "SEAWEED."
Winner of Silver Medal for best Shetland Pony Stallion, Newcastle, 1908.
Exhibited by MR. WILLIAM MUNGALL.

condition and ought to improve. The third and reserve were neat colts but under-sized. In Class 40 (stallions foaled in 1906) the first prize colt, Lord Rothschild's *Halstead Royal Duke* 25255, was a real good weighty animal, a perfect goer, and had the appearance of making a real weight stock horse. This animal was also awarded the Male Championship (see Fig. 9). The second, *General of Hothfield* 25229, was a thick, massive, blocky, weighty horse, that looked like making a stock horse. The third and fourth were very useful, but not of such substance as the two first. Altogether it was a good class. The first prize winner, *King Forest* 24347, in Class 41 (stallions foaled in 1905) was a very useful horse, who had stood his showyard career well, and thoroughly deserved his prize and his reserve card for the Championship. Class 42 (yearling fillies) was a very good one with a lot of fillies of very even merit. The first prize filly, *Danesfield Champion Duchess*, was brought out in lean condition, but should make a grand mare, particularly good at the ground. The second, *Dunsmore Girl*, was a sweet filly and a wonderful mover. In Class 43 (fillies foaled in 1906) the first, Sir Walpole Greenwell's *Marden Peach* 54607, was a nice, thick, weighty mare, and the second was very good on the ground. The first in Class 44 (fillies foaled in 1905), *Wimbledon Eldorado*, a real weighty good mare, and a typical Shire, was also Reserve Champion. Class 45 (mares with foals at foot) was, in the opinion of the Judges, one of the best classes of the day. The first prize mare, *Halstead Duchess 3rd* 42121 (see Fig. 10), also gained the Female Championship. She was a typical Shire, and evidently a good breeder, as she was the dam of the champion stallion. The second, *Northenden Blossom* 45864, was a weighty, good mare, but not in as large a share as the winner. The third was a beautiful mare, and in fact the whole class was excellent. In Class 46 (colt foals, the produce of mares in Class 45), the first was a very good weighty colt, brother to the Champion stallion, and looked like making as good a horse. The second was a very correct foal but had not quite so much weight. The animal awarded the first prize in Class 47 (filly foals, the produce of mares in Class 45) was a very good filly, and very weighty. The second was a very nice foal. The whole section was excellent.

Clydesdales.—In Class 48 (yearling stallions) the first horse, exhibited by A. and W. Montgomery, was an exceptionally good one, being Reserve Champion, and, on the whole, the winners in all the classes were very representative of the Clydesdale breed, many of them being previous prize-winners. Mr. R. Brydon's *Bonny Buchlyvie* 14032 (see Fig. 11), the first in Class 49 (two-year-old stallions), was an easy winner, and a very good colt, the second being a heavy, nice colt, but not so good a

mover. The third was full of quality, but a trifle undersized. The prize-winner in this class was afterwards Champion of the male section. Class 50 (three-year-old stallions) was only a fair class, some of the animals shown being out of form. Class 51 (yearling fillies) was very good, containing three or four very nice fillies, the winner, Mr. J. E. Kerr's *Ferelith*, standing out by herself. Class 52 (two-year-old fillies) was another good one, the first three animals being very good, and the winner, Mr. Kerr's *Nerissa*, gaining the Championship. She was a perfect mover. Class 53 (three-year-old fillies) was not so good as some of the other classes, and the winner, Mr. Kerr's *Marilla*, was a long way ahead of the others. Class 54 (mares with foals at foot) was probably the best class in the section. Here, again, Mr. S. Mitchell's *Royal Ruby*, the winner, stood out by herself, having beautiful legs and fine hair. The second *Minniewawa*, also exhibited by Mr. Mitchell, was a nice mare, and the third also, but the latter was beginning to show signs of age.

Suffolks.—These classes were fairly well filled, although more arrived at the Show than competed in the ring. Sir Cuthbert Quilter's *Bawdsey Marshall Ney* 3385, the winner in Class 56 (two-year-old stallions) was a typical Suffolk, standing on good feet and legs, and is likely to grow into a good horse. Mr. Alfred J. Smith's *Rendlesham Major Gray* 3278 (see Fig. 13), the winner in Class 57 (three-year-old stallions) took the Championship for Suffolk stallions and is a worthy son of a Champion Suffolk sire. The second, Mr. Kenneth M. Clark's *Sudbourne Arab* 3309 was also Reserve for the Championship. Class 58 (two-year-old fillies) contained four well-grown youngsters, the winner, Sir Cuthbert Quilter's *Sutton Jewell* 5789, was a sweet filly, likely to be heard of again. The animals shown in Class 59 (three-year-old fillies) were all good types of Suffolk mares. Class 60 (mares with foals at foot) was a very good one of both mares and foals, the first three mares being exceptional animals. One unfortunately met with a slight accident before appearing in the ring, but for which she would have taken a much higher position.

Draught Horses.—A very useful class of draught horses, some of which were very valuable. Competition was very keen, and in the end the referee had to be called in.

Draught Horses in Gears.—These classes (87-90) were particularly interesting, as they afforded an opportunity of comparing in the respective classes heavy horses of the Shire, Clydesdale, and Suffolk breeds. In Class 87, for single horses, a Clydesdale won, Shires were second and third, and a Suffolk fourth. The class as a whole was highly creditable, and made a fine display of the best horses for town work. For pairs of horses



FIG. 9.—SHIRE STALLION, "HALSTEAD ROYAL DUKE."
Winner of Champion Prize for best Shire Stallion, Newcastle, 1908.
Exhibited by LORD ROTHSCHILD.



FIG. 10.—SHIRE MARE, "HALSTEAD DUCHESS 3RD."
Winner of Champion Prize for best Shire Mare or Filly, Newcastle, 1908.
Exhibited by MR. JOHN BRADLEY.

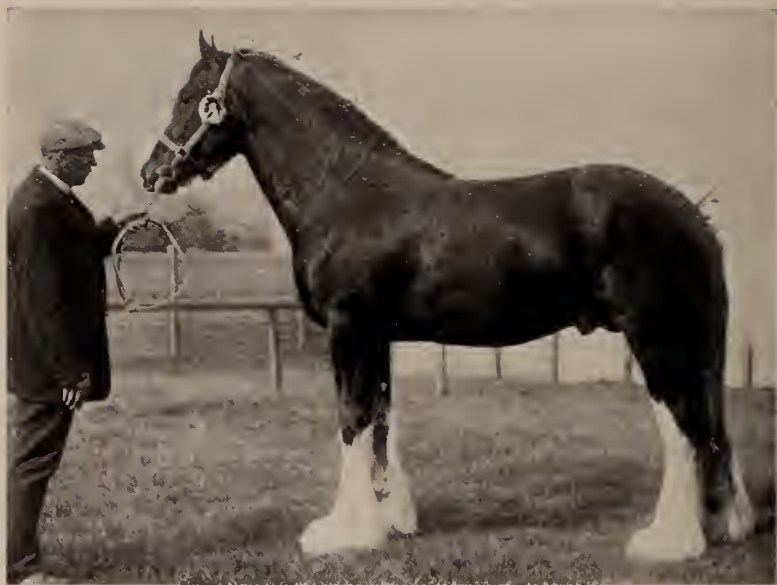


FIG. 11.—CLYDESDALE STALLION, "BONNIE BUCHLYVIE,"
Winner of Champion Prize for best Clydesdale Stallion, Newcastle, 1908.
Exhibited by MR. ROBERT BRYDON

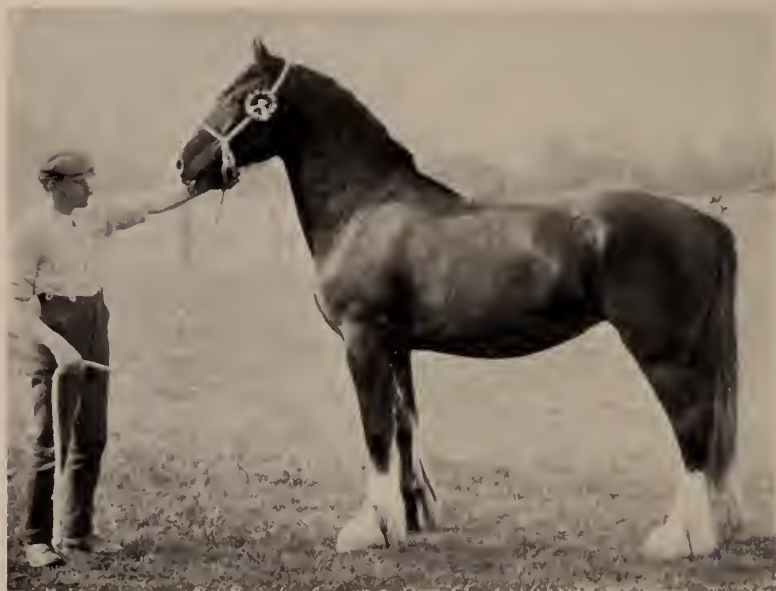


FIG. 12.—CLYDESDALE FILLY, "NERISSA."
Winner of Champion Prize for best Clydesdale Mare or Filly, Newcastle 1908.
Exhibited by MR. J. ERNEST KERR.

(Class 88) the prizes were awarded to heavy geldings of the highest class, the Shires predominating. They possessed very strong feet and had quality and bone, combined with free action. Teams of four horses (Classes 89 and 90) brought out a fine competition, comprising Shires and Suffolks, the Shires again getting first and second. The teams of Suffolks were a very fine display. They had great weight and substance, a pleasing uniformity of colour and type, and capable of dealing with heavy weights in a business-like manner, but they lacked the strength of limbs and feet in comparison with their successful rivals. These competitions were thoroughly appreciated by the public, and the competitors turned out clean and well groomed, with harness to match.

Pit Ponies.—At the Show of 1887, a class was provided for "Ponies suitable for pit purposes," but this only attracted two entries of four ponies each. At the 1908 Show, two classes were given, the competition being restricted to animals which had actually been working in the pits since January 1, 1908. The ponies were shown in pairs in ordinary gears without tubs. In the two classes there were fifteen entries, or thirty animals in all. The exhibits in Class 85, not exceeding eleven hands, were fairly representative of the kind of ponies used in the pits, comprising Shetlands and Welsh, one of the first prize pair, exhibited by the Seaton Delaval Coal Company, Ltd., being an exceptionally good specimen of the Shetland breed. The entries in Class 86 (over 11 hands and not exceeding 12 hands 2 in.) were not so uniform in character as those in the former class, nor were they so good all round. The first prize pair, shown by the Seaton Burn Coal Company, Ltd., were good specimens.

CATTLE.

The total of 948 (excluding double entries) in this section, while not so large as at Lincoln last year, when there were 1,030 entries, was above the average, and included the record number of 372 Shorthorns, or twenty-four more than at the Show of 1907, when the previous largest entry of this breed was made. The judging of the Shorthorn Classes was not finished until 6.30 p.m. Of Jerseys there were 94 entries, Aberdeen Angus coming next with 81 entries, and Galloways with 51.

Shorthorns.—These classes were well filled with many animals of superior merit, especially in the male section and in that for two-year-old heifers. There were thirty-five entries in Class 91 (old bulls), and the first prize was awarded to Sir Richard Cooper for *Chiddingstone Malcolm* 98377, who was followed by Mr. George Campbell's *Tarrel Uxor*

93622. His Majesty's *Royal Windsor* 93289, and Mr. George Harrison's *Elvetham Sweetmeat* 91624 followed in the order named. The Champion Prize for the best bull was also won by *Chiddingstone Malcolm*, the Reserve Number being Mr. Harrison's *Pride of Tees* 96474, the winner of the first prize in the two-year-old class (92), where he was followed by His Majesty's *Evander* 95106, and Mr. Rothwell's *Lord Brilliant* 95801. In Class 93, for bulls calved between July and December, 1906, there were eighteen entries, the first prize going to Mr. John Handley for *Rosedale Favourite* 100365, Mr. Basset's *Tehidy Robin Hood* 97420 being second. Bulls calved in the first half of the year 1907 (Class 94) produced sixty-nine entries, which included a number of exceptionally fine animals. Mr. George Harrison's *Collynie Champion* was first, being closely followed by Mr. A. T. Gordon's *Count Fascinator* and Mr. F. Miller's *Royal Duke*. In the younger yearling class (95) Mr. Gordon's *Bandmaster* was first, and Mr. H. S. Leon's two entries were placed second and third. In Class 96 (cows in-milk) Mr. J. H. Maden's beautiful roan *Lady Graceful* was awarded first prize, Mr. Harrison's *Dalmeny Rosemary* second, followed by Mr. William Bell's *Ratcheugh Beauty* and *Ratcheugh Witch*. Messrs. S. E. Dean & Sons' *Queen of Spey* 16th was first in Class 97 (three-year-old heifers). The two-year-old heifers (Class 98), numbering fifty-one, were excellent animals. The first prize was awarded to His Majesty's *Marjorie*, from the Windsor herd, Mr. Leon's *Snowdrop* was second, and *Dame Oxford*, from His Majesty's Sandringham herd, was awarded third prize. The Championship for the best female was also awarded to His Majesty the King for *Marjorie*. Messrs. Garne's *Village Belle* was first in Class 99 (yearling heifers), followed by Mr. W. J. Hosken's *Tehidy Royal Dickson* 4th. The Group Class, consisting of bull and three of his offspring, attracted only three entries. Sir Richard Cooper's well-known white bull *Meteor* 86631, with his produce, was first, and the entries of Mr. Henry Salvin and Lord Middleton were respectively second and third. In the Family Class, for a cow and three of her produce, Mr. Bell's *Ratcheugh Witch* beat Mr. Henry Williams' *Strowan Buttercup* 18th, the only other competitor. The Judges were gratified to note that there were fewer instances of over-feeding in the breeding classes than has been frequently seen in the "Royal" Showyard.

Dairy Shorthorns.—The animals in these classes well upheld their reputation as typical dual purpose cattle, the general uniformity to dairy type being more noticeable probably than at any previous Show of the Society. Class 100 (cows calved in or before 1903) was especially good, both in numbers and



FIG. 13.—SUFFOLK STALLION, "RENDLESHAM MAJOR GRAY."
Winner of Champion Prize for best Suffolk Stallion, Newcastle, 1908.
Exhibited by MR. ALFRED J. SMITH.

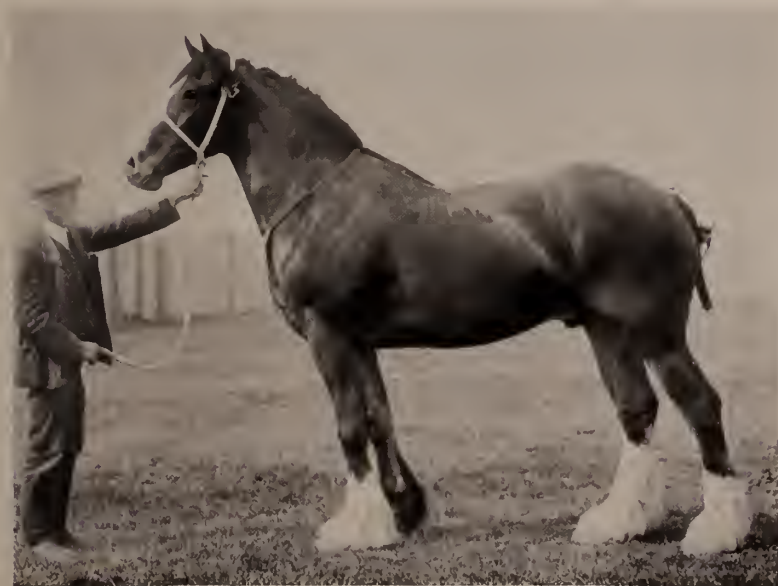


FIG. 14.—DRAUGHT GELDING, "MAJOR."
Winner of First Prize in Class for Draught Geldings, Newcastle, 1908.
Exhibited by MR. WILLIAM GRIFFITHS.



FIG. 15.—HARNESS GELDING, "MOROCCO."
Winner of Champion Prize for best Harness Mare or Gelding, Newcastle, 1908.
Exhibited by MISS DORA SCHINTZ



FIG. 16.—FOUR-IN-HAND TEAM, "GRAND VIZIER," "GRAND VULCAN," "ROWFON VITALBA,"
 "GRAND VANDAL."
Winner of Challenge Cup for best Four-in-Hand Team, Newcastle, 1908.
Exhibited by MISS ELLA ROSS.

also as containing many good animals of individual merit, both as regards looks and milking capabilities, one cow exceeding, and three others yielding close on, four gallons of milk at the single milking. This class contained both the Champion, Lord Rothschild's *Gift 2nd*, and Reserve Champion for the best Dairy Shorthorn cow or heifer. In Class 101 (cows calved in 1904) there was a short entry, but the winners did credit to the breed, the first prize, *Primrose 4th*, exhibited by Lord Rothschild, being of particularly good dairy type. Class 102 (heifers calved in or after 1905) contained a good entry, but there were several absentees. It was a very good class throughout, the first and second prize heifers showing fine Shorthorn character. The milk yield of the whole class was far above the standard. The Special Local Prize Class was poor, with but two entries.

Lincolnshire Red Short-horns.—Considering these animals were some distance from home, the classes were fairly well filled. Class 106 (bulls calved in 1903, 1904 or 1905) contained five exhibits, which were all representative and typical of the breed. Class 107 (bulls calved in 1906) contained two useful bulls in moderate condition. Class 108 (yearling bulls) was strong, the first prize animal, *Stenigot Bloom Boy 2nd*, being a clear winner with some good typical bulls behind him. Originally well filled, several animals were absent when Class 109 (cows, in-milk, calved in or before 1904) came into the ring. There was very little to choose between the first three cows. Class 110 (heifers, in-milk, calved in 1905) was small, the first being an easy winner and a good heifer. Class 111 (heifers calved in 1906) was the weakest in the Show, but Class 112 (yearling heifers) was the largest and best class of the breed, including some beautiful heifers.

Herefords.—In Class 114 (bull, calved in 1903, 1904, or 1905) there were very good entries considering the long way from their homes. No. 1080, Mr. G. D. Faber's *Rob Roy* 24953, was specially good, being awarded first prize and eventually winning the Championship as the best Hereford bull. H.M. The King's second prize bull, *Admiral* 23256, a very fine specimen, was Reserve Champion. The third and fourth were very good bulls. Class 115 (bulls calved in 1906) was rather small, the first prize animal, *Lancaster* 25480, being a big stylish bull and likely to make a good sire. He won rather easily. The second prize bull was also a big animal and will be heard of in the future. Only five animals were shown in Class 116 (yearling bulls), four of them being nearly equal in merit. The first prize cow, *Merriment*, shown by Lord Coventry in Class 117 (cows or heifers calved in or before 1905) won very easily and was Reserve for Champion, the other three

being good specimens of the breed. Class 118 (two-year-old heifers) was a small class, but contained good specimens, the first prize heifer, Mr. A. E. Hughes' *Lemster Plum*, eventually winning the Championship. Class 119 (yearling heifers) was a good and big class, the first prize heifer being especially good.

Devons.—The Judge found some difficulty in judging Class 120 (bulls calved in 1903, 1904, 1905, or 1906) owing to the difference in age and type of the animals entered for competition. He says that as so much depends on the sires used, each type received consideration in making the awards in the bull classes, for a sire suitable for the rich pastures of Somerset would not be considered desirable for the hills of North Devon or for the dairy herds of Dorset. The first prize in Class 120 was awarded to Mrs. A. C. Skinner & Son's *Capton Ploughboy* 4923, a big, active bull. This animal also secured the Championship for the Best Bull. The second was a very level well-made bull of North Devon type. Of the yearling bulls (Class 121) the winner, *Pound Gladiator*, also exhibited by Mrs. Skinner & Son, was a heavy-fleshed animal with plenty of size, and was Reserve Champion. In the cow class (122) the first prize was awarded to Mr. T. S. Morgan's *Whimble Kitty* 1st 19573, a well-made, good-fleshed cow, with a fair udder; she subsequently obtained the Female Championship. The second prize winner was a level cow, not so correct in her horns, but with a better udder, which, although she had lost a quarter, looked like giving more milk than others in this class. The third prize cow was a good specimen of the beef type. In Class 123 (heifers calved in 1906) there were five entries, the first prize going to the Hon. E. W. B. Portman for *Lady Coot* 21647, a big, growing heifer, not over-fed, the second prize animal being a better-fleshed heifer than the winner. In Class 124 (yearling heifers) there were four exhibits. The first prize was awarded to Mr. Morgan's *Whimble Broadhorn* 2nd, a good-fleshed heifer.

South Devons.—Five classes were provided for this breed as against three classes at Lincoln in 1907, and the entries, which numbered twenty-eight, showed a corresponding increase over the fifteen made at Lincoln. The animals exhibited were splendid specimens of the breed, and showed great size and superior quality.

Sussex.—This breed was short in numbers, owing no doubt to the great distance from its home. All the first prize winners were very good specimens, particularly the winners in Classes 130 and 133.

Welsh.—The display was small numerically, but several of the animals showed very good quality and breed character.

The first prize in Class 135 (bulls over two years) was awarded to the North Wales University College for a grand topped one, with plenty of width, called *Madryn Madoc* 297, his sire being the noted bull, "*Madoc*." Lord Harlech was awarded second prize for *Tybor* 211, and the Coed Coch Trustees were given the Reserve card for *Mynach Du*. In the junior male class (136), Mr. Greaves' *Wern Goalkeeper*, a shapely and promising youngster, was placed at the head, Mrs. Wynne-Finch coming second with *Camelot 2nd*. In the cow or heifer class (137) *Madryn Sally 2nd* 917 took the first prize to the College, and Mr. Greaves' *Abbess 4th* 432, a cow with a well-shaped udder, was placed second; whilst *Wern Fortress* 739, a heifer of grand quality and possessing good outline, was first in the three-year-old class (138) for the same exhibitor, the University College coming second with *Madryn Sally 3rd* 922, and the Coed Coch Trustees Reserve for *Gogledd*. The junior female class made quite a nice show, and contained some animals of great promise, including the winner, *Madryn Jet*, shown by the University College.

Red Poll.—These classes were not strong in numbers, but the quality on the whole was good. In Class 140 (for old bulls) the winner, *Davyson 265th* 9230, shown by Lord Cranworth, was exceptionally good, standing quite by himself, and afterwards winning the Male Championship. Of the nine animals entered in Class 141 (bulls calved in 1907), only three came forward, none of which were of exceptional merit. In Class 142 (cows) there were two or three good animals, but nothing outstanding. In Class 143 (heifers calved in 1906) only four animals entered the ring, the winner, Sir Richard Cooper's *Ashlyns Maid* 20633, being an outstanding animal, easily winning the Championship for the best female. In Class 144 (heifers calved in 1907) five came forward, among them one or two promising animals.

Aberdeen Angus.—The classes on the whole were very good. The aged bulls (Class 146) were exceptionally strong. The three-year-old heifers in-milk were also an excellent lot. Cows were good, as were also two-year-old and yearling heifers. The two-year-old bulls were the weakest class, but a few good yearling bulls were shown.

Galloways.—This breed had been on no previous occasion so well represented at the great national show of England, the numbers being about double what they have been at any other meeting, with the exception of Carlisle, which, of course like Newcastle, had the advantage of being close to the home of the breed. The quality, too, was up to a high standard, the aged bull and the two-year-old heifer classes being, perhaps, most worthy of mention, both being particularly well filled, and

while a greater number of outstanding animals may have been seen at previous shows, the winners in every class were excellent, and the respective Champions, His Grace The Duke of Buccleuch's *Romulus* 9421, and Messrs. Biggars' cow, *Flora Macdonald* 16422 (which, by the way, had the same distinction last year), were both animals of particularly high merit.

Highland.—Although there were only seven exhibits in this section, the different animals shown were, in the Judge's opinion, a credit to their respective exhibitors. In Class 160 only two two-year-old bulls were shown. Sir Donald Currie's *Morair Behalaich*, the first prize animal in this class, was decidedly the best specimen of the breed at the Show. He is red coloured, but has all the characteristics of a perfect Highland animal and should take a high place at the principal shows for some years to come. The second prize animal was a very fair type and would be an acquisition to any Highland fold. There was only one entry in Class 161 (cows or heifers, in-milk), an eight-year-old cow with calf at foot. This cow was a fairly good specimen of the breed, but a little wanting in substance. One, two, and three-year-old heifers competed together in Class 162. The yellow two-year-old, Mr. W. Sopper's *Diana of Dunmaglass*, placed first, is a very sweet animal, well haired, and showing plenty of character, although scarcely as strong as one could wish. The black three-year-old placed second is a strong well-bred animal, but a little rough above the tail, and the colour is defective. The yearling, although a little strong in the horn, promises to turn out a superior beast.

Ayrshires.—In Class 163 (aged bulls) there were three very good bulls, all showing good size and substance. In Class 164 (yearling bulls) there were four good level bulls shown, but none of outstanding merit. In Class 165 there were five cows in-milk. The first prize cow, *Old Graitney Soncie 7th* 18252, was a particularly good one shown in great bloom, although she could have done with her teat a trifle larger. The second was a very stylish, handsome cow and showed grand teats, but not quite in the same bloom as the first prize one. The other cattle were very useful looking dairy animals. The first prize in Class 166 (cows or heifers, in-calf) was won by a very promising looking young cow, *Auchlochan Rosette* 21547, showing very great layers and teats, and a very kindly toucher. The second prize was gained by a big stylish looking cow, also showing good layers and teats. The third prize animal was a little stiffish made. Class 167 (heifers calved in 1906 or 1907) had two exceptionally good heifers, showing great style and substance.

Jerseys.—These classes were good, though rather short in numbers. In Class 169 (bulls calved in 1903, 1904, 1905, or

1906), the nine bulls competing were all highly commended, every one of them being worthy of a distinction. The first, Mr. Miller-Hallett's *Alfriston's Pride*, fully deserved his place, and, bred from a cow that had won honours in a butter test, finally took the Special Prize awarded by the Royal Jersey Agricultural Society. The second was Lady de Rothschild's *Stormer*, also out of a butter test cow, and looked all over like a good dairy bull. The third was a fine type of bull, though a little high on his tail, and the reserve, though of good quality, carried quite enough flesh and was rather weak in the back. Four very first-class bulls had to be content with a high commendation. Class 170 (bulls calved in 1907) was short in numbers. Lord Rothschild's *Combination Jack*, an excellent yearling, afterwards Reserve in the Special Class for animals out of butter test cows, came easily to the front, and the second and third prizes and reserve number were very equal in point of merit. Class 171 (cows, in-milk, calved before or in 1904) was the best filled class; the first, Mr. Miller-Hallett's *Lady Viola*, was an excellent type of a Jersey cow, and the second, though not quite so good in her head and neck, had a remarkably good udder and good body. The third was a fine cow, not quite so good in her top line, and the fourth was followed by four very good cows, all highly commended. In Class 172 (three-year-old heifers) the first prize was awarded to Lord Rothschild for a beautiful animal named *Kenta* (12366), and the second showed great dairy promise, the third falling to a rich good heifer, not quite so perfect in her bag as the first and second, the fourth not handling so well as the prize winners. Four very good heifers divided the prize money in Class 173 (heifers, in-milk, calved in 1906), but the rest of the class was poor. The entries in Class 174 (yearlings) were by no means so numerous as one expected, but there were half-a-dozen extremely good heifers at the top, out of which the first heifer, *Glorina*, easily drew to the front, very little separating the second and third prize. The fourth was a very neat heifer and the reserve would have been higher but for being a little weak in the loin. Class 175 (for cows and heifers bred by exhibitor and sired in Great Britain) was a difficult class to judge owing to the disparity in age. The first prize was awarded to a young cow, *Post Obit*, that had been reserve in the old cow class. The second prize animal, which had also taken second prize in the two-year-old class, was not quite so good in her bag, and she was very closely followed by the third prize in the three-year-old class.

Guernseys.—There was rather a short entry of this breed, which, considering the distance from their home, was only to be expected, but what was lacking in number was made up in quality. The first prize in Class 177 (bulls calved in 1903,

1904, 1905, or 1906) was awarded to Mr. F. Hargreaves' bull, *Merton Signet* 1691. He is a fair lengthy bull of good quality, good top and outline, and carries his years well. The second, *Moss Raider* 1871, the property of Lady Tichborne, is a young nice topped bull, showing good quality, but hardly the length of the prize winner. In Class 178 (bulls calved in 1907), Mr. Hargreaves' *Merton Village Boy* 1971, a nice promising bull, was placed first. Lady Tichborne's *Itchen Dairymaid* 3268 was first in Class 179 (cows or heifers, in-milk, calved in or before 1905), and is a typical Guernsey cow with a fine bag and showing great quality. *Felois* 4436, exhibited by Mr. Hargreaves, which was placed second, is a very good cow but shows her age somewhat. There were only three two-year-old heifers brought forward in Class 180, *Itchen Royal Rose 2nd* 6925, a nice quality heifer, belonging to Lady Tichborne, being placed first. *Itchen Pearl 5th* 6923, belonging to the same owner, was second. In Class 181 (yearling heifers), *Floss 3rd of the Quartiers* 7712, the property of Mr. Hargreaves, was first.

Longhorns.—Class 183 contained four bulls and Class 184 five cows. There were good specimens of the breed in both classes.

Kerries.—As a whole these were an excellent lot of cattle. Class 186 (bulls calved in 1903, 1904, 1905, or 1906) contained some very fine bulls, especially the first four in the award list. Mr. Tillotson's *La Mancha Diver*, the first prize bull in this class, was eventually awarded the Championship of the breed. Class 187 (cows or heifers, in-milk, calved in or before 1905) comprised some typical cows, especially those awarded money prizes. Included in Class 188 (heifers calved in 1906 or 1907) were two very promising heifers, and the Duchess of Newcastle's *Hardwick Flora 3rd*, the first prize winner, should develop into a grand cow.

Dexters.—With the exception of the prize winners in the female classes and two bulls, the exhibits of this breed were of only average merit. The first and second prize bulls in Class 190 (bulls calved in 1903, 1904, 1905, or 1906) were of good quality and not too large. His Majesty's *Compton Dolly Varden*, the first prize cow in Class 191, and the Champion of the breed, was a very compact and typical specimen of the breed. Only two heifers were exhibited in Class 192. *La Mancha Marjorie*, the winner, also the property of H.M. The King, has a very capacious well-shaped udder, and was placed Reserve for the Championship. The young heifers in Class 193 that had calved had generally badly-shaped udders and the prizes were awarded to those in-calf. The first prize winner, *Mapnath Modesty*, the property of Mr. R. Tait Robertson, was a model of neatness and quality.

Milk and Butter Tests.—A full Report upon these Tests by the Steward of Dairying is printed on pp. 188 to 204.

SHEEP.

The entries, totalling 695, were twenty-three more than at Lincoln last year, and, with the single exception of Manchester, 1897, it was the largest entry since the Windsor (International) Show of 1889. All the breeds were well represented, the South Devons being the only section in which the entries did not reach double figures. Considering the distance of Newcastle from the home of this breed, this was, however, only to be expected. The Shropshires came first with 85 entries, Border Leicesters followed with 76 entries, Kent or Romney Marsh with 66, Southdowns with 64, and Lincolns with 53.

Oxford Downs.—The Judge states that, as a whole, it was the best show of Oxford Downs he had ever seen. They were all true to type, and had every characteristic of the breed. Class 197 (shearling rams), with an entry of sixteen, was an excellent show of big, massive, strong-boned, well-woolled sheep. Mr. James Horlick gained first prize with a big, massive sheep, which handled very well, and had a good head. The second prize went to Mr. J. T. Hobbs for a grand, big sheep which should be a ram getter. The third prize went to Mr. H. W. Stilgoe for a very taking sheep and a stylish walker. Class 198, with twelve entries, was an excellent show of ram lambs. First prize went to Mr. J. T. Hobbs, for a pen of three excellent ram lambs, which handled very well, and had beautiful, strong heads and good coats. The second prize went to Mr. H. W. Stilgoe for a pen of very good, well-coated ram lambs, and the third prize to Messrs. R. W. Hobbs & Sons for a pen of good, big, useful ram lambs. With eight entries, Class 199 (three shearling ewes) made a most excellent show, the first prize going to Mr. A. Brassey for a pen of three splendid, big, massive shearling ewes, very well matched, and with good coats. The second prize went to Mr. J. T. Hobbs for a very well matched pen, and the third prize was awarded to Mr. J. Horlick for a pen of very good, stylish-looking shearling ewes. With nine entries, Class 200 (three ewe lambs) was a very good show, and was difficult to judge. The first prize was awarded to Mr. J. T. Hobbs for an excellent pen of three well-coated, big, strong ewe lambs, and very well matched. The second prize went to Messrs. Adams for a very good pen of ewe lambs, which had good coats and size. The third prize went to Messrs. R. W. Hobbs for a pen of very well-matched, good-coated, strong ewe lambs.

Shropshires.—Class 201 was fair, with the first a clear winner. Class 202 was a good one, all the winners being

quite worthy of the honours, and the same remarks apply to Class 203. The winners in Class 204 appeared in Classes 202 and 203. There was very little to choose between the first and second prize pens in Class 205. Class 206 was very good, including some animals of excellent quality, but Class 207 was only fair.

Southdowns.—The Judges report that although the numbers in each class were less than in other years, the cause no doubt being that the Show was so far north, each class had some exceedingly good representatives of the breed, those taking honours being quite equal to, if not above, the general average seen at any exhibition. The first prize in Class 208 (two-shear rams) was awarded to Mr. C. R. W. Adeane for a really good sheep, far above the average. This sheep was eventually awarded the Champion Gold Medal for the best ram in Classes 208 and 209. The second prize went to Sir Jeremiah Colman, Bart., for a very nice type of Southdown. In Class 209 (shearling rams) the first prize was awarded to H.M. The King for a really good type of Southdown. This was an exceedingly strong class, both in numbers and quality; in fact, the Judges had considerable difficulty in placing the first four sheep. The first prize in this class was Reserve for the Champion Gold Medal. There were seven exhibits in Class 210 (pens of three shearling rams), and most of the sheep were really good specimens of the breed. In Class 211 (pens of three ram lambs), H.M. The King was awarded the first prize for three lambs such as are rarely seen. They were splendid in quality, size, character, and touch, and were closely followed by the other prize winners. Class 212 (three shearling ewes) caused a considerable amount of anxiety and trouble in making a selection. The exhibit awarded the first prize was a really good pen of nicely matched ewes of good quality, short legs, and splendid handle, belonging to Sir Jeremiah Colman, Bart., to which was afterwards given the Silver Medal for the best pen of ewes or ewe lambs. The second prize went to Sir Julius Wernher, Bart., for a very good pen, which were Reserve for the Silver Medal. In Class 213, His Majesty exhibited three ewe lambs similar in character, size, and quality to those in Class 211, and was awarded first prize. The second prize went to Sir Julius Wernher, Bart., for an exceedingly nice pen.

Hampshire Downs.—Considering the distance from their homes, this breed made a very creditable show, with thirty-one entries in five classes and only one absentee. The two-shear rams (Class 214) contained five animals of very level merit. The nine shearling rams exhibited in Class 215 were not quite so level, but the first prize winner, exhibited by Mr. James Flower, was a splendid sheep, typical of the breed in every

point. Class 216 (three ram lambs) contained some really good sheep, the leading pens being very nearly equal in merit. Four pens of shearling ewes in Class 217—the smallest class in the section—were headed by the best pen of ewes seen for some years. The ewe lambs in Class 218 were a level lot, but the winning pens were not quite up to the quality and type of previous years. The first prize pen of ram lambs, shown by Mr. H. C. Stephens, won the Championship, with the second prize pen reserve.

Suffolks.—The Judge states that these sheep made a good show and were very representative of the breed, all the animals being true to type and of good colour, although some of the classes might have been better filled. The two-shear rams (Class 219) made a good class of typical sheep, especially the first prize animal, and the same remarks apply to Class 220. Some very good lambs were shown in Class 221, being very true to type and of smart appearance. All the sheep exhibited in Class 222 were of especial merit. Class 223 was a collection of good animals, although the third prize winners were rather too fine for show sheep. A very good class of well-grown lambs of very smart appearance was found in Class 224.

Dorset Horns.—The Judge reports that although the entries of Dorset Horns were not large, the specimens exhibited were representative of the breed. The first prize in Class 225 (shearling rams) was awarded to No. 1862, a well-made, good fleshed ram; the second prize to No. 1864, an animal with a good head and more size, and the third prize to No. 1867, a better fleshed ram but not so good on his legs. There was close competition in Class 226 (ram lambs), and first place was awarded to No. 1871, having correct turned horns, the second prize going to No. 1870. The third prize pen, No. 1869, and the reserve pen, No. 1872, contained good specimens of the breed. The shearling ewes in Class 227 were nearly of equal merit, No. 1873, a grand pen, taking first prize, No. 1875 the second prize, and No. 1877, the best fleshed pen in this class, the third prize. In Class 228 (ewe lambs), No. 1879 was awarded first prize, No. 1880 second prize, and No. 1882 third prize.

Ryelands.—Being so far from home, there was only a fair entry of this very old breed of sheep, so celebrated in ancient times for their high quality of wool. The first prize animals in all the classes showed considerable merit and were excellent representatives of the breed. The second prize sheep were also good.

Kerry Hill (Wales).—The Judge remarks that, owing to the distance from their native hills, the Kerry Hill (Wales) Sheep did not muster in large numbers, but those exhibited were

typical specimens of this hardy breed, favourites with the butchers and rent-payers for the hill farmers. Two grand specimens of the breed came forward in Class 232 (rams, two-shear and upwards), correct in type and colour, good symmetry, full of lean flesh, and carrying fleeces fitted for the cold hills; No. 1894, excelling in head and fleece, being placed first, with No. 1895 second. The entries in Class 233 (shearling rams), although only three in number, varied considerably. No. 1896, the first prize winner, is a lengthy masculine sheep, free from any defects, true to type, with plenty of size, good form, and close wool. No. 1898, a beautiful sheep, wide in the loins, deep in the leg, slightly deficient behind the shoulders and a bit shorter than the first prize winner, was placed second. Class 234 comprised three pens of really good specimens of the breed. No. 1900, three good, well-grown ewes, was awarded first prize, and No. 1901, three well-matched ewes, a shade smaller than the first prize winners but very correct, was placed second. Class 235 was perhaps the weakest class of the breed, although the first prize pen, No. 1904, look like growing into good ewes. The whole of the sheep were brought out in comparatively natural condition, with very little showyard forcing or trimming.

Lincolns.—Only four exhibits came forward in Class 236 (two-shear rams), the first prize ram being a well-grown sheep, with a good even fleece. In Class 237 (shearling rams) there were thirteen entries, the whole of which appeared before the Judges. The winner has good bone, good Lincoln fleece, and good outline, but is not a particularly forward sheep in condition. This animal, shown by Messrs. S. E. Dean & Sons, was also awarded the Championship. The first and second prize pens in Class 238 (five shearling rams) were of pretty equal merit, but the winners had the best Lincoln fleeces. The lambs in Classes 239 and 241 were very backward in condition. Class 240 (three shearling ewes) was a very fair class, the first and second prize pens showing most Lincoln character. Class 242, with seven exhibits, was also a fair class of yearling ewes. The first prize pen had very even fleeces and good character. The Lincolns as a whole were not equal to former years.

Leicesters.—The shearling rams (Class 243) were a fairly good class, though varying a little perhaps in type. None of the other classes need special comment, with the exception of that for shearling ewes, which was excellent, and which the Judge had great difficulty in deciding how to place.

Border Leicesters.—The show of Border Leicesters as a whole was most meritorious. The class for rams over one-shear (Class 247) was well filled and the prize winners all very good sheep. Shearling rams were a very large class and competition

extremely keen. The order of merit was of the highest class. Shearling ewes also made a grand display.

Cotswolds.—Considering the long distance from their homes, there was a good entry in Class 250 (shearling rams), the winners being especially good sheep. Some very good ram lambs were exhibited among the five entries in Class 251. Class 252 was a very good lot of ewes, and Class 253 was a small, but good class of ewe lambs.

Kent or Romney Marsh.—The Judge considers that these sheep were wonderfully well represented numerically, being the third best of all the breeds, in spite of the great distance the Show was held from the home of the breed. The quality was very high and competition keen. There were fewer sheep bare of wool than usual, and attention must be given to filling up the hole behind the shoulder visible in some of the specimens. In Class 254 (two-shear rams) the first, second, and third were quite good sheep, and the fourth was rather on the big side. The first prize animal in Class 255 (shearling rams) won easily, and is a grand Kent ram. The second was a very showy sheep, rather overdone, and getting inactive. The third was a capital sheep, but did not stand well. Altogether this was a very strong class. Class 256 (three ram lambs) made a fair show of sheep at a difficult age. The first prize pen were well grown and even, the second of nice quality, the third useful but not quite matching, the fourth moderate, and the reserve small. Class 257 (three shearling ewes) was a very even event throughout. The first prize sheep had grand quality of flesh and excellent wool. The second prize winners were of grand type, but not quite so fine in their wool. The third just beat the fourth in quality of wool, the latter being a typical pen on the strong side. The reserve sheep were a neat, level pen, but inclined to weakness. In Class 258 (three ewe lambs) the first prize sheep won easily, and were level and good. The second, a pen of typical sheep, just beat the third, the latter being well covered and level. The fourth were of useful type.

Wensleydales.—The two-shear rams exhibited in Class 259 were of fair quality, no sheep of outstanding merit being shown. Shearling rams were entered in Class 260 in fair numbers, and were of good quality. Some of the ten sheep exhibited were of outstanding merit, with an absence of over-feeding, so injurious to animals intended for breeding purposes, which is much to be commended. Only two entries of ram lambs were made in Class 261, but both were of good quality, although small. There need be no surprise at either the small entry or the backward condition of the sheep when the fact is taken into consideration that Wensleydales are not

dropped until March and April, and the cold wet spring was against the lambs coming on. Class 262 (shearling ewes) was, like Class 260, of exceptional merit, the whole class being commended.

South Devons.—Although small in numbers of exhibits, the animals exhibited were splendid specimens of the breed, the two-shear rams being of exceptional merit.

Cheviots.—The Judges report that these classes represent a record at the "Royal," both in quality and numbers. Class 265 (for aged rams) was the largest, and was headed by a big, massive sheep bred at Mowhaugh, with a good strong head, excellent quality wool, and standing well on his legs. The second prize ram followed very closely, but was a little plainer in his head, and had not quite the excellent quality of wool. The eight shearling rams exhibited in Class 266 made perhaps the weakest of the four classes, although the first prize animal was a good specimen of the breed. Class 267 (for aged ewes), although small in numbers, included some excellent animals, the first prize ewe having excellent wool, a very high head, and good legs. The shearling ewes (Class 268) were the best of the section. All the ewes were of splendid quality, and the good points of the first and second animals gave the Judges considerable difficulty in deciding between them.

Lonks.—The entries in this section were few in number, but the quality was good. In Class 269 (rams, shearling and upwards) the first prize animal was a thick-fleshed sheep of good colour, except perhaps in the face, and although he had not been shorn bare, his wool was of the best quality. The second prize animal had a good head, horn, and was of good colour, but was short of substance. In Class 270, a nice lot of ram lambs won first prize. One was small and young, but showed good quality, and all three were well woolled, with good bright colour, and look like making good sheep. There was one good lamb in the second prize pen. The shearling ewes exhibited in Class 271 were good, there being little to choose between the first three pens. The first were longer casted sheep, and showed a fair amount of the old Lonk character, but some of their horns were unsatisfactory. The second prize pen were very good in colour, with smart heads, well fleshed, and with good all round quality. The third prize sheep were of nice colour, well woolled, and with good quality.

Herdwicks.—This breed of mountain sheep was not largely represented, but some very good exhibits were forward, especially in the aged ram class and in that for shearling ewes. The winners in the ewe class were the best the Judge had seen for a considerable time. The task of judging was rendered rather difficult by the fact that some of the exhibits were

shown in their wool while others were shorn, making it unsatisfactory for the Judge and the exhibitors.

Welsh Mountain.—Two classes were provided for this breed, one for rams, shearling and upwards, and the other for pens of shearling ewes. In the male class the University College of North Wales was first and reserve, the winner being an animal of very choice character and type and merit, bred by Mr. W. Conwy Bell, who found himself beaten by a ram of his own breeding, for in this class his two entries were second and highly commended, but in the shearling ewe class his beautifully-matched and typical pen were deservedly first, the University College taking second and reserve with a couple of pens of high merit and quality.

Black-faced Mountain.—The Judge reports that the show of these sheep was excellent, not only on account of numbers, but also in respect of general excellence. There was no weak class in the section and the competition throughout was close and keen. The rams, two-shear and upwards, entered in Class 277, numbered fourteen, the prize winners being of fine quality, the first and second prizes being awarded to rams which would be very hard to beat. Shearling rams (Class 278) numbered sixteen, and the first and second prize winners were again of more than usual merit, the rams placed after them being also very creditable exhibits. Class 279 numbered eight ram lambs, and was headed by four very promising specimens of the breed, but the other exhibits in this class were not of much merit. Class 280 (ewes, two-shear and upwards) had nine entries, the quality generally being much above the standard, almost every exhibit showing first-class breeding, the average merit in this class being higher than in any other. The shearling ewe class had fifteen entries, and although the quality all through was not so high as in the former class, the prize winners again showed evidences of the highest breeding, and promise to maintain the character of the breed in future showyards.

PIGS.

This section, though not so large in point of entries as at Lincoln, where there was a record entry last year, was with this one exception larger than at any other Show of the Society, the entries reaching a total of 312. Six classes were set apart for each of the following breeds:—Large White, Middle White, Tamworth, Berkshire, Large Black, and Lincolnshire Curly-Coated. The Large Whites numbered 83, the Large Blacks coming next with 64 entries.

Large Whites.—The Judge reports that these pigs as a whole were very meritorious, containing a large number of very superior animals, which took a lot of judging, so very

even were the exhibits in a great many classes. The first prize in Class 282 (old boars) was awarded to No. 2322, the property of Mr. Alfred W. White, Hillegom, Spalding, a very fine boar, which eventually took the National Pig Breeders' Association Medal for the best boar or sow. The second and third prizes went to Nos. 2312 and 2308, two fine boars, and there were other animals of great merit in this class. Another fine Class was 283, in which the first prize was awarded to No. 2332, belonging to Mr. R. R. Rothwell, and the second prize to No. 2323, a boar which drops slightly in his quarters. There were no less than twenty exhibits in Class 284, which were all very good and gave the Judge great difficulty in arriving at his decisions. The first, second, and fourth prizes went to Mr. D. R. Daybell for very classy pigs. Eight splendid sows came before the Judge in Class 285, and this class generally was excellent. Class 286 was a grand one, the first prize animal being Reserve for the Championship, and all the exhibits in Class 287 were of great merit, every animal obtaining a card.

Middle Whites.—These classes were fairly well filled, the average quality being good, although several pigs missed prize money owing to the very objectionable defect in a Middle White of blue spots, and the Judge would not sanction this hereditary blemish. The first prize in Class 288 was awarded to No. 2392, a boar of good type and plenty of size; the second prize to No. 2395, a smaller pig of excellent quality; and the defect of blue spots allowed a coarser pig in No. 2391 to obtain the third prize. Only two entries appeared in Class 289 (1907 boars), but No. 2396, in addition to the first prize, won the Champion Gold Medal. He had splendid quality, beautiful hair, was in fine condition though not overfed, was an excellent mover, very good on his joints, and was a pronounced champion. No. 2397, the second prize boar, had a bad head and was short of hair. A growthy young pig, No. 2402, with a nice coat, was given first prize in Class 290, but owing to a number of animals of a similar type showing blue spots, Nos. 2404 and 2405 were second and third respectively, having good quality and feeding properties, but being rather defective with regard to their hocks. In the old sow class (291) Nos. 2409 and 2410 were very closely matched, but better hams and squareness of joints gave the former the first prize, and later the Reserve for the Gold Medal. In the class for 1907 sows, No. 2417 had an easy win. She had good quality and hams, but might have had a trifle more bone. There were eight entries of pens of three sow pigs in Class 293, Nos. 2419 and 2420 being easily first and second, showing family likeness and plenty of quality.

Tamworths.—Class 294 (old boars) was poor, neither of the boars being good. The first prize boar in Class 295 was very

promising, and shown in proper breeding condition, though rather short of hair. The rest of the class were fair. Some nice young pigs were found in Class 296, but the reserve number was quite a different type of animal to the others. The breeding sows (Class 297) were not as good as usual, especially in colour, but Class 298 was a long way the best of the section, and was very difficult to judge, not having a bad animal in it. Two good pens formed Class 299. The winner of and reserve for the Championship were excellent pigs, good enough to go anywhere.

Berkshires.—Class 300 (old boars) was rather a strong one, the winner being very stylish, with good character of the breed, and the winner in Class 301, for 1907 boars, was a nice pig with length and character. Some very nice character pigs were exhibited in the 1908 boar class, No. 302, the winner being a good lengthy pig with style and character. Class 303, for breeding sows, was an exceptionally strong class, including several superb animals. The animal awarded the first prize was a very nice typical pig, and looked a winner all over, although the second prize sow, rather lacking on the shoulder and dropping a little at the tail, ran her very close, and some time was taken to decide between the two. Mr. Horwood states that he has never judged a stronger class. Sows farrowed in 1907 made a good class of stylish animals with character, although some were rather behind the first prize winner, but they all look like making grand sows later on. The first prize in Class 305 (pens of three sow pigs) was awarded to very level, nice character pigs with good colour and bone, the second prize to nice pigs but not so level in size, and the third prize to a pen which included a pair of most typical pigs, the other animal being weak in hind quarters, and consequently spoiling the pen from being placed higher. The reserve pen was comprised of very smart pigs of most beautiful character, but gone off of the legs. No. 2491, the Champion, was an outstanding pig and an easy winner, with almost all good points.

Large Blacks.—The Judge remarks that the support which this section received at such a distance from the eastern and western counties, the chief centres of this breed, must have been gratifying to those interested. Class 306 (old boars) was headed by a grand boar, No. 2518, which was also awarded the Championship. This animal possessed great length and depth and was the oldest in his class. The second, No. 2520, was well grown and of nice quality, and the third, No. 2515, had remarkable length and substance, but was somewhat on the coarse side. Class 307 (boars farrowed in 1907) furnished nine entries. The winner, No. 2527, was nicely level, with plenty of size and quality, and was subsequently Reserve for the Championship. The second and third prize animals were also good specimens

of the breed. Class 308 (young boars) contained no less than twenty-two entries, many of them showing a considerable diversity of type. No. 2542 was an easy first, being very level, with skin and hair of excellent quality, and the second and third were well-grown animals. Some of the entries in this class showed signs of wrinkled skins, a defect to be guarded against. There were seven entries in the old sow class (309), which included some grand specimens, and considerable difficulty was experienced in placing the first and second prize animals, both being splendid examples of the breed but of rather different type; the younger animal, No. 2555, appearing to have a slight advantage on the balance of points, obtained the premier position and was afterwards awarded the Challenge Cup presented by the Breed Society, the second prize animal being reserve. Class 310 (1907 sows) was strong, both in point of numbers and merit, and the competition was extremely close between representatives of the same herds as in the previous class. No. 2560, awarded the first prize, was a very level animal, well placed on short legs, with length and substance and of exceptional quality, there being very little between the first and second, which was a grand sow of great length and depth, and the third prize winner, from the same herd, was an animal of similar type. Seven entries appeared in Class 311 for pens of three 1908 sows. No. 2574, awarded the first prize, was a well-matched pen of nice type and quality and easily obtained the premier position. The second prize pen, No. 2572, were level short-legged pigs, with not quite sufficient length. The third prize pen, No. 2577, contained animals of individual merit, but not well matched, as was the case with other pens in this class.

Lincolnshire Curly-Coated.—The pigs in Class 312 (old boars) were of very large size and good symmetry, with abundance of lean flesh, standing well on their legs. The class for boars farrowed in 1907 was rather small, but what it lacked in numbers was amply made up in quality. Nine exhibits appeared before the Judge in Class 314 (1908 boars), all of them very good, and in fact this was the best of the boar classes. Class 315, for breeding sows, was well filled with very fine, beautiful specimens that would be hard to beat. The pigs entered in Class 316 (1907 sows) showed more quality than the older sows, but had not quite the same size about them. Competition was very keen in a very good class of pens of sow pigs farrowed in 1908.

POULTRY, INCLUDING DUCKS, GEESE, AND TURKEYS.

For the first time this section was held under Poultry Club rules. The prizes, amounting to 199*l.* 15*s.*, included a

Challenge Cup value Ten Guineas and two Silver Medals offered by the Club, the competition in these cases being restricted to its own members. The entries numbered 768 in 99 classes, as against 826 in 87 classes at Lincoln in 1907. As usual, three Judges divided the task of awarding the prizes. Mr. W. W. Broomhead judged the Game Fowls, Wyandottes, Sussex, Brahmas, Cochins, French, and Table Fowls; the Rev. T. W. Sturges judged the Orpingtons, Minorcas, Leghorns, and Andalusians; and Mr. T. Lambert judged the Langshans, Plymouth Rocks, Dorkings, Hamburgs, Campines, Ducks, Geese, and Turkeys.

Mr. Broomhead states that as regards the quality of the birds in the classes entrusted to him, he has not seen a better lot of poultry at any exhibition held in the same season of the year. The adults, without exception, were in splendid feather, and the chickens were very forward and well developed. It was pleasing to see so many *Old English Game fowl* on view, and the display of *Indian Game* was also most satisfactory. The *Wyandottes*, too, were very fine, both Whites and Partridges being well to the fore. The fanciers of *Sussex* fowls are to be congratulated in supporting the event in such an excellent manner, and he has no doubt that the display of these most useful birds in the far north will do much to popularise the breed outside the wealds. The *Brahmas*, *Cochins*, and *French* breeds were well up to the usual standard, and quality was not lacking. The entries generally were very good, and were sufficient proof that the "Royal" still holds its own as a popular fanciers' show. The Rev. T. W. Sturges reports that the *Orpington* classes on the whole were well filled, and that the quality was excellent. A better collection of old birds has seldom been got together, and it is evident that the generous classification is much appreciated. The *Leghorns* were just a fair lot. The *Minorcas* were good in quality but few in numbers, as the season had been unfavourable for young stock, which were sparsely shown. *Andalusians* were a failure, with only two exhibits. Of the varieties judged by Mr. Thomas Lambert, the *Langshans* had two good classes, the winners in each excelling in type and colour. *Plymouth Rocks*, with sixty-four entries, made a very fine display, the quality being excellent throughout, the winning Barred cock being about the best specimen of the day, while in the young bird classes the Barred pullet was of great promise. The other variety classes also contained some real good specimens of Buffs and Whites. The quality in the classes for *Dorkings* was excellent throughout, and was all that could be desired, as it was a contest of notable winners of the year. Altogether these birds made a fine collection. The *Hamburg* classes were

weak in numbers but good in quality, while the *Campines* were just fair. The *Water Fowl* and *Turkey* classes were the weakest of the Judge's section, and, with the exception of the classes for *Indian Runners*, the competition was decidedly disappointing, and consequently in three classes the first prizes were withheld.

PRODUCE.

Butter.—The number of entries was small and the quality of the produce as a whole was not of a high order of merit. There were nine entries only in Class 417, and of these three were absent. Four of the six samples were neither well made nor well packed. Sixty-four of the entries competed in Class 418. The first prize butters were of very good quality, the second prize good, and the third prize fair. Among the non-prize-winning exhibits there were several inferior samples, and it would appear that many exhibitors made the mistake of over-working their butter. In other cases it was clear that the cream had been ripened by an unfavourable ferment.

Cheese.—On the whole, the show in this section was a very good one indeed. The prize winners stood out very boldly from the other exhibits. Unfortunately the excessive heat was against the condition of the cheese, and many lots were very soft and heated.

Cider and Perry.—The Judges report that, although this section was not as strong in quality and numbers as in some previous seasons, taking into consideration last season's poor crop of fruit, the exhibits may be regarded as of fair average quality. Class 428 as a whole was weak, both as regards numbers (eight entries) and quality. Several casks, which were otherwise of fair quality, showed signs of cider sickness. Considering the unfavourable nature of the last cider-making season, Class 429 (sixteen entries) was strong in quality, and there was but little difference in merit between the entries which obtained mention. The exhibits in Class 430 (thirteen entries) were very mixed in character. The samples which obtained mention were good and above the average in quality. Class 431 was weak in numbers (six entries) and poor as a whole in quality.

The following are the results of the chemical analyses of the samples gaining prizes or commendation :—

CLASS 428.—*Cask of Cider, not less than 18, and not more than 30 gallons, made in Autumn of 1907.*

No.	Specific gravity	Alcohol	Total solids	Acidity	Awards
		per cent.	per cent.	per cent.	
3563	1·0224	3·74	6·89	·318	1st Prize
3568	1·0204	4·40	6·39	·469	2nd Prize

CLASS 429.—*One Dozen Bottles of Cider, made in Autumn of 1907.*

No.	Specific gravity	Alcohol	Total solids	Acidity	Awards
		per cent.	per cent.	per cent.	
3582	1·0334	3·05	9·47	·402	1st Prize
3584	1·0351	3·00	9·65	·365	2nd Prize
3574	1·0327	2·90	9·13	·342	3rd Prize
3583	1·0341	3·10	9·49	·365	R. N. & H. C.
3570	1·0280	3·70	7·81	·412	H. C.
3571	1·0330	1·75	8·89	·398	Com.
3578	1·0184	3·77	6·04	·439	Com.
3579	1·0173	3·82	5·61	·482	Com.

CLASS 430.—*One Dozen Bottles of Cider, made in any year before 1907.*

3586	1·0390	1·05	10·29	·452	1st Prize
3587	1·0393	1·20	10·27	·425	2nd Prize
3597	1·0362	3·55	10·18	·415	3rd Prize
3596	1·0313	3·05	8·84	·425	R. N. & H. C.
3589	1·0204	4·35	6·35	·375	H. C.

CLASS 431.—*One Dozen Bottles of Perry.*

3601	1·0505	1·35	13·26	·649	1st Prize
3599	1·0420	2·70	11·71	·382	2nd Prize
3604	1·0095	6·23	4·35	·596	3rd Prize

Wool.—The exhibits as a whole were very good for the classes they represented, but, with the exception of Cheviots and Scotch, they were not representative of the bulk of the wool grown in the north of England. Doubtless the reason why only two exhibits appeared in the Shropshire class was because this wool is rarely to be found in the northern counties.

Hives, Honey, &c.—The quantity of exhibits in this section was not so great as in recent years, partially through being so far north, where the season is not sufficiently early. The quality, on the whole, was rather above the average, and the classes were divided, so that the counties were grouped—north and south. That furnished a very good means of testing the varying qualities, according to the district, and that in itself was of educational value. Some excellent hives were shown, and marked a great advance in the improvements in that direction in recent years. Possibly the tendency was towards too much elaboration, and the simplifying of the appliances might be an advantage. The collection of appliances and trophies were rightly a source of great interest and admiration. In several classes the competition was particularly keen, and the Judges experienced great difficulty in making their awards.

Horse-shoeing.—The Judges report that the work done by the best competitors was excellent, the first prize winner in each class made no technical error, and the placed competitors showed a good knowledge of the scientific principles underlying the important art of horse-shoeing. It was gratifying to note that nearly all the prize winners were men who had R.S.S. after their names, and who had attended County Council Technical Classes, a fact which clearly demonstrates the great good to be derived from attending these classes of instruction. It is to be regretted that the work done by many of the local competitors was of an indifferent character, showing a great want of knowledge of the structure and functions of the horse's foot. The preparation of the foot for the shoe was ignored, or wrongly carried out, also the fitting and nailing on; the idea evidently being that the making of a pretty shoe was of greater importance than the comfort of the horse. The medals offered by the National Master Farriers' Association were greatly appreciated and the competition for them was very keen. The public appeared to take a great deal of interest in the competitions, as was evidenced by the large number of people in attendance during the whole of the proceedings.

Plans of Farm Buildings.—The report of the Judges of this competition, with reproductions of the designs, specifications, and estimates of the prize winners was published in the form of a pamphlet, and copies were on sale in the Showyard. The report is reprinted in the present volume (see pp. 241 to 273).

Farm Prize Competition.—The report on this competition will be found at pp. 212 to 240.

Sheep Dog Trials.—These were held in the Large Parade Ring, and were a great success in every respect. There was a good entry of forty-four, and the work of the dogs as a whole was good, not one abusive dog coming forward for competition. The only regrettable circumstance was that the time allowed for the trials was too short to admit of all the dogs being tested as thoroughly as they might have been. Each dog was given a simple preliminary run in order to get an idea of its style, command, and abilities, and also to weed out the least brilliant workers, so as to allow a considerable length of time in testing more severely, in a second trial, the selected or short-leet dogs. The preliminary runs occupied on an average about five minutes, and were finished by one o'clock, thus leaving ninety minutes for testing—in driving, penning, shedding, and wearing—the thirteen dogs that were selected for a second trial. As every dog that was preferred for a second run possessed some outstanding qualification as a worker, and as the work and tests were more difficult and critical than in the preliminary run, the spectators had an opportunity

of witnessing what an able and well-trained collie is capable of doing, and every clever point and display on the part of those agile workers was loudly applauded. As far as the limits of the Large Parade Ring would allow, the dogs were tested on work which they were accustomed to do, or should be able to do, in the daily routine at home, so that the work assigned to each dog was thoroughly practical. What was aimed at was to afford each dog an opportunity of giving an exhibition of its best form of work, and to exclude from the course every device for puzzling the dogs, so as to prevent, as far as possible, the element of chance coming in. Scotland sent only five dogs, and three of these were in the short-leet, one of which eventually got second place in the prize list. Northumberland, however, gave by far the best display, both as to numbers and style of work. Of the thirteen dogs that were selected for a second trial, eleven of them were of the same strain, several being closely related. The first and second prize winners, though not from Northumberland, were of the same lineage, the "Old Hemp" and "Kep" progeny. This strain excel in attention to work, eye, and action, and their cowering style is most fascinating and cannot be surpassed anywhere. The English dogs from further south than Northumberland made rather a poor display as compared with the Northumbrians. They have neither the size, action, nor attention to work of the Border dogs, and are far behind them in practical work, but for doing puzzles and trick work, the guiding of sheep through a labyrinth of flags and poles and other intricacies, they are certainly well qualified. To sum up, the first prize winner gave almost a faultless performance, being gentle, obedient, and possessed of a certain freeness of movement not often met with. His performance might have been improved with the introduction of a little more fire. The second prize winner goes well to and round her sheep, brings straight and steadily, has good style, and in excellent command. She marred the beauty of her performance, however, by "turning tail" in wearing single sheep. The third prize winner runs with great eagerness and power and his style all over is superb. In his second trial, however, he got a little out of command. The fourth prize winner goes free and fast, is wonderful in obedience, but the crowd appeared to bewilder him a little. The fifth prize winner is stylish, obedient, and brings his sheep beautifully, but is rather loose in his running at close quarters. The Judge congratulates the Council in being the first to introduce before the Grand Stand such an excellent demonstration of canine sagacity, an exhibition which is at once the most interesting and instructive of all open air sport.

Dairy Cows and Milkers' Competition.—The prizes for these classes were provided by the Northumberland Dairy and Tenant Farmers' Association, and were competed for on the Thursday. The Judge found the *Cows* a good class, and in every way typical of what he would expect to find in a first-class showyard. The *Heifers* were disappointing both from the point of numbers and quality. Of the *Milkers' Competition* the Judge could not speak too highly, the women being especially good.

Ploughing Competition.—The competitions promoted and carried out by the proprietors of the *Newcastle Chronicle* on behalf of the Society at the beginning of the year were a new and popular feature of the Society's proceedings in connection with the Newcastle Show.

For the purpose of creating widespread interest in these competitions the two northern counties were divided into six districts. Four of the preliminary competitions were held in the County of Northumberland at the following places :—Walbottle, to the west of Newcastle-on-Tyne ; Widdrington, near Morpeth ; West Link Hall, near Christon Bank, and Heatherslaw, near Flodden Field. Two were held in the County of Durham—one at Chester-le-Street and the other at Bradbury, near Ferryhill. In these preliminary competitions there were two classes—one for swing ploughs and another for wheel or digger ploughs. One hundred and seventy-nine entered for the various competitions and only three failed to take part in the contests.

The first prize winners, in each class, at the sectional competitions (twelve in number) met in a final trial at Hipsburn, near Alnwick, on February 7, in a field kindly lent for the purpose by Sir Henry Scott. It was a beautiful day and the scene was an animated one by reason of the presence of thousands of spectators, many of whom had travelled long distances to be present, and whose keen interest in the work of the contestants was evidence of their appreciation of the splendid ploughing being done. The Judges had considerable difficulty in arriving at a decision owing to the exceptional merits of the competing ploughmen. It is worthy of note that the six divisional preliminary competitions arranged to take place within little more than one week were actually carried through, with one exception (owing to the frost), on the days fixed.

Agricultural Education and Forestry.—These sections are treated in special reports (see pp. 205 to 212).

Horticultural Exhibition.—This section of the Show was organised by the Durham, Northumberland and Newcastle Botanical and Horticultural Society, and, as on previous

occasions, provided a most interesting and beautiful exhibition. The grounds adjoining the tents containing the floral exhibits were laid out as ornamental gardens, including a rockery with fountains, and furnished a most attractive display. On the Wednesday Their Royal Highnesses the Prince and Princess of Wales visited the Horticultural Show, and were received by Alderman Sir Joseph Baxter Ellis and Mr. Councillor Johnstone Wallace.

The successful Show at Newcastle will always be remembered, not only for the practical way in which the Corporation and Local Committee showed their interest in the Society's visit, but also for the prominent support accorded by the local newspapers and the whole press of the country—to which, in a great measure, the large attendance of visitors was undoubtedly attributable. The arrangements made by the Northern railway companies for the transport of exhibits of live stock and implements, and also for the conveyance of the large numbers of visitors to the Show, were excellently carried out, and worked in the smoothest manner possible.

THOS. MCROW.

16 Bedford Square,
London, W.C.

THE TRIALS OF ARTIFICIAL AND FARMYARD MANURE DISTRIBUTORS AT NEWCASTLE-ON-TYNE, 1908.

Judges { JAMES YOUNGER, Burradon Farm, Newcastle-on-Tyne.
FRANK MARTIN, Land Agent, Hubbert's Bridge, near Boston.

TRIAL OF ARTIFICIAL MANURE DISTRIBUTORS.

IN this competition there were nineteen entries all of which competed.

The points on which the Judges had to decide were as follows :—

- Uniformity of distribution.
- Efficiency of regulating amount of distribution.
- Adaptability for dealing with various manures.
- Freedom from clogging.
- Facilities for emptying and cleaning.
- Economy of working.

Capacity of hopper.
 Width of distribution.
 Mechanical construction.
 Draft.
 Price.

The trials were carried out on Mr. Stephen Fairbairn's High Weetslade Farm, Annitsford, near Newcastle-on-Tyne. The plots were measured and staked out half an acre each and the soil was in a perfect state for the tests, having been well worked down so that all the points of distribution, &c., would be plainly visible.

The first test which the machines were put through was to sow at the rate of 6 cwts. per acre of superphosphate. The superphosphate was in very good condition and not as pasty as it would be in the ordinary course of sowing for a crop in the spring, the weather having been very dry for some period previously and during the trials. The whole of the machines entered got rid of the superphosphate without clogging to any great extent owing to the manure being in such a friable state.

During this test it was noticed and commented upon that nearly every one of the machines that sowed the same width as the hopper, distributed the manure in lines across the full width of the machine, leaving bare spaces between. The rotary machines, however, made a more even distribution.

The Judges decided after this test that there were only seven machines that had any likelihood of complying with the points set out for them to judge by, and the following were those left in.

No. in
Catalogue

- | | | |
|------|---------------------------------------|-----------------|
| 118 | TEASDALE BROS., LTD., Darlington. | The "Teasdale." |
| 154 | J. & R. WALLACE, Castle Douglas. | |
| 305 | JOHN WALLACE & SONS, LTD., Glasgow. | "Victor." |
| 925 | KUXMANN & CO., Germany. | "Westphalia." |
| 1907 | R. & J. REEVES & SON, LTD., Westbury. | "Cyclone." |
| 1955 | ALEX JACK & SONS, Maybole. | The "Empire." |
| 3401 | JAS. COULTAS, Grantham. | |

The next test these seven machines were put through was to sow at the rate of 1 cwt. of sulphate of ammonia to the acre, on half acre plots. The sulphate of ammonia had been passed through a half inch screen and was in the usual state when applied to the land. After sowing the manure each machine was emptied and cleaned out to test the point of "emptying and cleaning out."

Machine No. 118 (*Teasdale Bros., Ltd.*, Darlington), a rotary one, was the first tested. It distributed the sulphate fairly

well, but did not apply sufficient, and there were many lumps thrown out, so that the distribution was uneven. When finished it was cleaned out, but this work could not be done satisfactorily, as, when tipped up, the discs caught the ground and were liable to be bent or damaged unless the shafts were held at a particular height.

Machine No. 154 (*J. & R. Wallace*, Castle Douglas), also a rotary, was next tried with the same quantity of sulphate of ammonia and afterwards emptied and cleaned out. The distribution by this machine was very good indeed and it covered a wide breadth, the same as had been noticed in the previous trial. No lumps were to be found, and the emptying and cleaning out were easily and rapidly done by one man, as the machine could be tipped up and stand by itself with the discs clear of the ground.

Machine No. 305 (*John Wallace & Sons, Ltd.*, Glasgow), broadcast (with large roller in bottom of hopper which lets down for cleaning out) came next on the same test, but did very bad work and only sowed at intervals. The opinion formed was that this machine was capable of doing much better work if it had been more efficiently handled and set properly. The emptying and cleaning of this machine were rapid and easily done.

Machine No. 925 (*Kuxmann & Co.*, Germany). Broadcast machine, with clever contrivance for cleaning knives (which push out the material) when at work. The manure had to be placed in a particular way in this hopper, so as to allow for the movement of distributors from one side of the machine to the other, and a layer of sand had first to be placed in the bottom of the hopper for the blades to be run upon to keep them from pasting on underside.

This machine delivered the sulphate very irregularly and in blotches, and not at all evenly; it was too wide to pass through a nine feet gateway and had transport arrangement to enable it to go through gates endways. It was very inconvenient for emptying and cleaning out, one wheel having to be propped up and turned round several times before the manure could be got out. It was also noticed that the manure lodged on the front side of the hopper and would not fall down to be distributed.

Machine No. 1907 (*R. & J. Reeves & Son, Ltd.*, Westbury) was a rotary machine having a kind of propeller disc for distribution in a vertical position, with a chain of flat blades working under the bottom of the hopper about $1\frac{1}{4}$ in. wide, and as they turned over the roller to deliver the manure to the discs, the blades brought it out at regular intervals, and not continuously, so the discs delivered it in puffs or blasts, not

at all evenly, and with too many lumps. The emptying and cleaning of this machine were not satisfactory.

Machine No. 1955 (*Alex. Jack & Sons*, Maybole) was a rotary machine with forced feed. This machine did very good work and covered a wide breadth distributing the sulphate of ammonia evenly; the same as it had been noticed to do on the first test—but there were small lumps to be seen in several places. The emptying and cleaning out were satisfactory, but the shafts had to be held in one position during the operation, or damage might be done to the discs.

Machine No. 3401 (*James Coultas*, Grantham). This implement is a broadcast sower the full width of the machine. It is so constructed that the hopper winds up as it moves along and brings the manure into contact with a revolving rake, which kicks the manure over at the back of the machine. At each time of filling, the hopper has to be wound down by hand. The capacity of the machine is about $2\frac{1}{2}$ cwt. When the machine started on its plot with sulphate it travelled some distance before it began to sow any manure, and, after commencing, it distributed it very unevenly and in patches; this was noticed on its first test. It also sowed the sulphate with small lumps. The emptying and cleaning out were easily performed; but the great drawback to this machine was the necessity of winding down the hopper when it had to be refilled.

After this test the Judges decided that machine No. 305 had not gone through the last trial satisfactorily, so it was struck out. They also decided that, as the superphosphate used on the first day was in a too fine and dry condition, they would test the six machines remaining in with superphosphate in a more damp state, similar to the ordinary condition of 26 per cent. soluble superphosphate—to be sown at the rate of 6 cwt. per acre, in order to judge as to the clogging of the machines and also to take note of the state the machines were in after having gone through this trial. They did not consider it necessary to test the machines with basic slag, as the superphosphate used on the first trial was dry and powdery.

Machine No. 118 (*Teasdale Bros., Ltd.*), sowed the 3 cwt. of superphosphate on the half-acre plot and did its work satisfactorily so far as distribution went. It, however, got rid of the manure too quickly, so that it could not complete the plot. Had it sown it at the right thickness, the machine would have shown more signs of clogging, as it has a stirrer moving backward and forward at bottom of hopper.

Machine No. 154 (*J. & R. Wallace*, Castle Douglas). This machine again sowed the superphosphate very evenly and without lumps, and did not show signs of pasting or clogging.

There was a small quantity of manure left after sowing the half-acre plot, but as this test was not made with a view of obtaining the maximum delivery from the machine, but rather a reduced delivery, this point did not weigh with the Judges. The Judges were well satisfied that this machine had complied with the conditions of the trials all through.

Machine No. 925 (*Kuxmann & Co.*, Germany). This machine did its work on this trial very badly, only sowing the manure on one side of it, and when finished, the superphosphate was found to be all banked up on the front side of the hopper.

Machine No. 1907 (*R. & J. Reeves & Son, Ltd.*, Westbury). In this trial the machine did not make a good distribution, as the manure stuck to the propeller discs and every now and again large lumps became detached and were thrown out in a pasty mass, the hopper had not cleared itself properly.

Machine No. 1955 (*Alex. Jack & Sons*, Maybole). This machine made good work in this trial and evenly distributed the superphosphate. It finished fairly clear from clogging, and put on the right quantity of manure.

Machine No. 3401 (*James Coultas*, Grantham). This machine was stated to be worked out to a nicety, so as to sow any amount required from 1 to 6 cwt. per acre by changing wheels, which changing, however, takes some time. In this test the machine sowed about one half of the plot and ran out of superphosphate and so could not finish.

After this third test the Judges were agreed as to which machine should be awarded the Gold Medal, but were not fully decided as to which should be awarded the Bronze Medal.

Machines Nos. 118 and 1955 were therefore again tested with superphosphate without being cleaned out or having anything done to them, to see which of the two would run and distribute the manure with the least clogging.

Machine No. 118 was tried first and it was found that the longer it was worked the more it clogged and threw out large pasty lumps. This was expected from the backward and forward movement of the stirrer in the bottom of the hopper.

Machine No. 1955 did its work as well as in the last test, was very little clogged, and had not made the superphosphate pasty inside the hopper.

It was therefore decided, with the concurrence of the Steward and Consulting Engineer, that the machine, No. 154 in catalogue, entered by Messrs. J. & R. Wallace, of Castle Douglas, should be awarded the Gold Medal, and that machine No. 1955 in catalogue, entered by Messrs. Alex. Jack & Sons, Maybole, should be awarded the Bronze Medal.

J. & R. WALLACE'S "UNIVERSAL" DISTRIBUTOR.
AWARDED THE GOLD MEDAL.

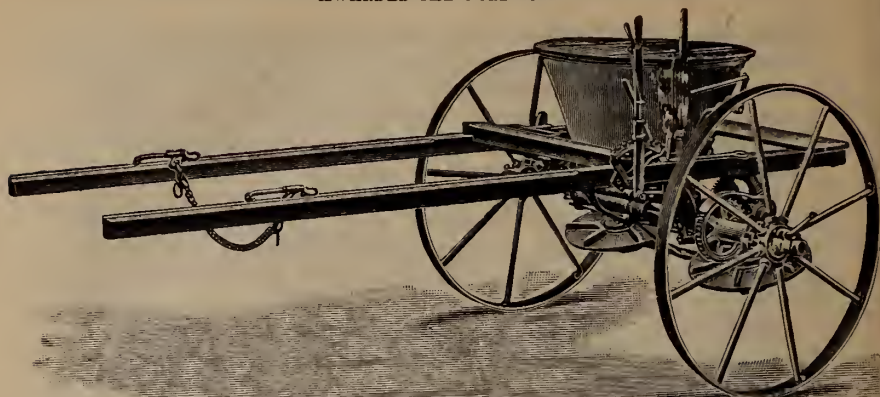


Illustration showing machine set to sow up hill.

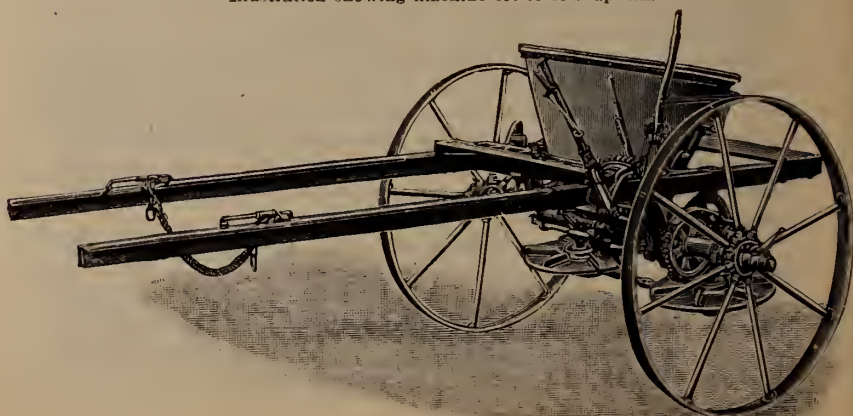


Illustration showing machine set to sow down hill.

DESCRIPTION OF THE "UNIVERSAL" DISTRIBUTOR.

This machine possesses a property peculiar to itself, that is, an entire absence of the stirring principle in the hopper, or, in other words, there is no mechanism in the hopper moving through inert material in the shape of manures.

Many fertilisers if stirred at all become pasty and difficult to distribute, so that one is safe to say that the machine which stirs least will distribute best.

In this machine the bottom of the hopper is a platform moving circumferentially at a slow rate carrying round the material to the openings. It is surmounted by a star or finger wheel, which moves in conjunction and with it forms an effective conveyor. This finger wheel is also effective in crushing against the fixed scrapers any lumps which may be amongst the material to be distributed.

The machine has a tilting device, so as to vary the angle at which the hopper and discs stand, for distributing the manure when working either on the flat, up, or down hill.

The wheels can be adjusted to fit varying widths, when sowing ridged land.

ALEXANDER JACK & SONS, LTD., NEW PATENT "EMPIRE" DISTRIBUTOR
AWARDED THE BRONZE MEDAL.



DESCRIPTION OF THE "EMPIRE" DISTRIBUTOR.

The "Empire" is very compact in arrangement, embodied in which are :—

The combination force feed and revolving disc, which overcomes hitherto insuperable difficulties, securing more regular output and discharging superphosphates and all other kinds of artificial manures without clogging.

The patent lever adjustable brackets, by which the driver can readily tilt the delivery discs, and alter the position of the discharging spouts, either in or out of motion, thereby in combination with the force feed giving equal distribution on uneven or hilly land.

The lever for regulating the output, conveniently placed at the back of the main frame, and fitted with a numbered index as a guide to quantity distributed.

The road wheels, both fitted with spring ratchets which give equal power in driving the spur and bevel gears, ensuring instantaneous starting and stopping sowing, and entire freedom from side draught.

The main axle, adapted for extension of wheels to suit drills from 25 in. to 30 in. wide. The base of hopper revolves on ball bearings, which render the "Empire" extremely light in draught.

TRIAL OF FARMYARD MANURE DISTRIBUTORS
(BROADCAST).

There was only one entry in this class, viz. :—No. 1053 (*Messrs. Timpany & Tylor*, of Liverpool).

This machine was a kind of wagon drawn by two horses, with pole; having a movable bottom with revolving rake or distributor in the rear. It was loaded and packed in with manure that was in a very nice state, fairly dry and loose, and distributed the load with fair evenness, but the width covered was very narrow and the draft heavy. It was afterwards tried with some fresh manure brought from a box where cattle were being fattened; but when loaded in the ordinary way, and not packed in, the strain on the horses was very great, so great that unless they had been exceptionally strong and good pullers they could not have moved the wagon any distance, when distributing, without stopping. The manure was sent out very irregularly, some places having great lumps and others scarcely any.

The great drawback to this machine was that the draft, when loaded, was too much for an ordinary pair of horses and the weight of the load going over the land (unless in a very dry state) would be very detrimental thereto.

The Judges were of the opinion that the machine was not of great use to a practical farmer, as the manure would have to be prepared and made into a suitable condition before the machine could make a satisfactory distribution. They therefore decided not to award a medal.

TRIAL OF FARMYARD MANURE DISTRIBUTORS
(IN RIDGES).

There were two entries in this class—one the same kind of wagon as in the previous class, entered by *Messrs. Timpany & Tylor*, of Liverpool (No. 1054), with an arrangement in the rear to distribute the manure down ridges. This machine did its work fairly for some distance, but became choked and had to be relieved by hand. When started again, one of the revolving belts broke and it could not deliver the manure and therefore did not finish the load. The same remarks as to heavy draft and weight going over the land apply to this machine as in the broadcast distributor of the same firm.

The other entry was a small machine (No. 1935) to attach to the rear of a cart and distribute manure down one ridge at a time, entered by *Messrs. J. D. Allan & Sons*, Murthly. This machine broke up the manure, which was in very nice and suitable condition and delivered it in the ridge; but it was noticed that there was no regularity of distribution, as it depended to a great extent upon the speed at which the manure was thrown into the machine by the man on the cart; because as soon as the manure was thrown into the hopper it was ejected at the rear, and when the horse walked a fair pace, the man on the cart could not throw the manure into the hopper quickly enough to keep up a regular supply. In some places there was a fair sprinkling of manure and the next yard or so none. The manure used for the trial of this implement was exactly suitable for the machine; but if ordinary farmyard manure, fresh out of a heap, had been used, in the opinion of the Judges, the machine could not have distributed it.

It was claimed by the inventor that one man could throw the manure into the machine and drive the horse and cart at the same time. This appeared to be practicable when the horse was walking down the ridge, but it was doubtful, in the opinion of the Judges, whether one man could manage the horse and cart and the machine when turning at the ends.

In the opinion of the Judges, the price of the machine, for the amount of work it was capable of doing, was excessive.

It was agreed that neither of these machines fulfilled the requirements of the regulations as laid down for the trials, so the Judges decided not to award a medal.

Before concluding this report I wish to thank, on behalf of my colleague (Mr. James Younger) and myself, the Implement Stewards (Mr. R. M. Greaves and Mr. Claude M. S. Pilkington) and the Consulting Engineer (Mr. F. S. Courtney, M.Inst.C.E.), for the very great assistance they rendered to the Judges during these exhaustive trials, and to congratulate them on the very efficient and satisfactory manner in which the arrangements generally were made for the carrying out of the same.

And I must also thank Mr. Stephen Fairbairn, on behalf of the Royal Agricultural Society, for having allowed the use of his fields for the conduct of these trials and for having put them into a satisfactory state as regards condition of soil, &c., which work could not have been done without some expense, as at the time of my first visit to make arrangements the land was in a bad state so far as fineness and suitability for the tests were concerned.

The thanks of the Judges, Stewards, and Consulting Engineer are due to Mr. Fairbairn for his kind hospitality during the two days of the trials.

FRANK MARTIN.

Hubbert's Bridge,
nr. Boston,
Lincolnshire.

MISCELLANEOUS IMPLEMENTS EXHIBITED AT NEWCASTLE, 1908.

THE Judges appointed by the Society to make the awards of Silver Medals for New Implements were :—

Mr. WILLIAM CROSS, M. Inst. C.E., Spreakfield Cottage,
Frensham, Farnham ; and

Mr. JAMES YOUNGER, Burradon Farm, Newcastle-on-Tyne ;

but owing to a regrettable motor accident Mr. Cross was unable to attend, and Mr. Frank Martin, Land Agent, Hubbert's Bridge, Boston (the writer of this article), was requested to act in his stead.

In this class there appeared to be very few exhibits new in design or of great merit, and the Judges had some difficulty in deciding as to the giving of the Silver Medals, so many of the entries, excepting for some alterations in the working parts, not being of a novel description.

No. 217.—*Grinding Mill*.—Entered by Henry Simon, Ltd., Manchester. This was a grist mill with an emery grinding wheel placed in a vertical position, instead of stone or metal

as in the usual grist mill. The Judges were of the opinion that there was nothing in the idea that was a very marked improvement, and were not satisfied with the method of adjustment of the grinding surfaces.

No. 615.—*Grist Mill*, with roller appliance attached to make soft meal.—Shown by E. R. & F. Turner, Ltd., Ipswich. The only novelty about this appeared to be the combination of grist and roller mill.

No. 670.—*An Improved Running Gear for a Motor Vehicle*.—Shown by Leyland Motors, Ltd., Lancashire. This was a metal casing to enclose the Cardan shaft, and so constructed that the shaft ran in oil and prevented dust from entering. It appeared to be the same idea, in connection with the Cardan shaft, that has been used for the cranks of most motors.

No. 747.—*Poultry Breeding Pen*.—Exhibited by The Westmeria Company. The special feature claimed for this house was the ease with which poultry might be attended to by a lady. The bottom of the house, however, was so constructed that it could not be cleaned out easily, on account of a sill being across the door where droppings would have to be taken out.

No. 748.—*Oil Motor*.—By Marshall, Sons & Co., Ltd., Gainsborough. This was a very substantial and useful motor for hauling, or any agricultural work such as ploughing, threshing, &c., very well constructed, and, in the opinion of the Judges, a very suitable machine, and more on the lines than an agricultural motor for this purpose should be than the generality of oil motors now manufactured.

No. 749.—*Traction Engine*.—Exhibited by the same firm. This engine is so constructed that all the control levers can be worked from the foot-plate instead of the driver having to stop his engine and get off. It is lightly built so as to go on to roads and land that will not bear a heavier engine.

No. 1074.—*Machine for making Concrete Blocks*.—Exhibited by the British Concrete Company, of Liverpool. This was a moulding machine to be filled and consolidated by hand. By inserting different plates, blocks of concrete of varying shapes and sizes could be made. In the Judges' opinion it was suitable for making concrete blocks for building any kind of structure in which bricks or stone might be used.

No. 1363.—*Cream Separator*.—By Moeller & Condrup, Fore Street, London. Having a kind of worm drive placed at an angle to the upright spindle of the bowl; said to be the first time that spindles had been worked in conjunction with each other at this particular angle. The Judges were unable to see any great advantage in this style of gearing.

No. 1416.—*Fastener to Top of Churn*.—Exhibited by Waide & Sons, Leeds. This was a kind of lever to pull past the centre and remain fixed; similar to what has been previously applied to dog-cart doors, &c.

No. 1494.—*Cream Separator*.—Exhibited by the Dairy Supply Company, Ltd., London. The novelty claimed for this was in the construction of the discs, which had holes in them, allowing the milk to pass through more rapidly. It was said to increase the capacity from 440 to 660 gallons.

No. 1496.—*Milk Strainer*.—By the same exhibitors. This was a milk strainer so constructed that by placing a linen bag over it in a certain way and pressing down the upper part, a larger straining surface was obtained than would otherwise be possible, thereby getting the milk through the strainer more rapidly.

No. 2007.—*Cultivator*.—By Martin's Cultivator Company, Stamford. A similar spring-tined cultivator to their well-known make, but smaller in size and suitable for small holders.

No. 2008.—*Molasses Mixer*.—By the last-named firm. This was a machine for mixing molasses with chaff in certain quantities as desired. There is a hopper to hold the chaff, with a revolving pronged spindle at the bottom to force it through an aperture, and as the chaff passes this a roller the full width of the machine carries over the molasses from a trough in which it runs, pressing it against the chaff as it is being delivered by the prongs inside the chaff hopper. The amount to be mixed with the chaff is regulated by an adjustable scraper on the face side of the roller bringing up the molasses. The idea is novel and good, but the output of the machine was much too slow.

No. 2035.—*Pole Point and Carrier for Binder or Reaper Poles*.—Exhibited by J. & H. Keyworth & Co., Liverpool. This was a contrivance to fix to a reaper or binder pole to take the weight of the machine off the horses' necks and collars so that the animals could move more freely. In the opinion of the Judges it was not of much advantage, as, generally speaking, all binders and reapers are nearly balanced, or ought to be, when at work.

No. 3881.—*Lamp Pump*.—Exhibited by the Lamp Pump Syndicate, Ltd., Carey Street, Westminster. This is a small pump—to be worked at a low pressure—for pumping water from shallow wells. It is of a novel and very interesting kind, being worked by a small Wells burner consuming about one pint of paraffin per hour. The pump itself takes up a small space, and requires very little fixing other than connecting up with the suction and delivery pipes.

It was exhibited for the first time last year at Lincoln, and then attracted the attention of the Judges, who recommended that it should be put forward as a new Implement for this year. The system and working parts are fully described and illustrated in last year's (1907) Journal of the Society, pp. 135 to 137.

The improvements made since last year are of an important nature, and consist of :—

(a) A new condenser arrangement which is best described as an air vessel on the main suction pipe encased in a cast iron vessel which forms the actual condenser. The arrangement enables the pump to prime itself on starting, and to work more efficiently on a long suction, at the same time it does away with some joints in the structure which might have given trouble, and which at any rate were somewhat hard to get at.

(b) A simple method of making the water cushion at the bottom of the pump certain and satisfactory in action has been introduced.

(c) The gland of the pump rod has been improved, and the machine as now made is put together in a much more compact form, with the result that the joints have been largely reduced in number and simplified in form, and the cross copper pipe connections done away with.

(d) The present boiler is made so that it can be easily taken to pieces for cleaning purposes, and the apparatus for feeding it with water has been made stronger and simpler, there being no float, spring, or screw employed in its working parts but only a weighted valve and counterpoise.

In its present form it should prove to be a very useful pump for domestic supplies, as it requires a minimum of attention.

In order to show clearly the capabilities of the machine, the following figures, which are reported to have been actually obtained in working, may be of value :—A boiler weighing 20 lbs. heated by a lamp burning ordinary paraffin oil, has driven one of these engines continuously at 100 strokes per minute, raising 350 gallons of water an hour, from 20 ft. below ground to a height of 40 ft. above ground level, the pressure in the boiler remaining at 0 with a consumption of paraffin of 1 pint per hour, which, with paraffin at 8d. per gallon, works out at 1d. per hour.

These machines are automatic, and therefore when once started require no attendant. They can be started and looked after by farm labourers without fear of accident to themselves or the machine.

No. 4316.—*Field Gate Latch*.—Shown by A. C. Harris, Leicester. This was a self-securing device, and easily unfastened by simply pulling at a small handle. It tripped a

small catch, and when the gate swung to the post again it caught this trip and secured it. This was tried by the Judges, but it was noticed that if the gate sagged a little it would not fasten without being banged to with some force.

No. 4411.—*Steam Motor Waggon*.—Exhibited by the Marquis of Londonderry, K.G., Seaham Harbour. This was a very superior motor lorry, capable of carrying 5 tons, well made and exceptionally strong. There did not, however, appear to be any points about it that were exceptional or novel; it was much on the lines of other motor lorries.

No. 4436.—*Sewage Distributor*.—Exhibited by W. E. Farrer, Birmingham. This was an appliance for small sewage plants for mansions, cottages, or outlying buildings, and consisted of a septic tank with an outlet into a rocking or tilting trough; the liquid then passed into smaller troughs having holes in them, to let it out and distribute it equally over the surface of the filter bed. The rocking or tilting trough was so arranged that it delivered its load first on one side and then on the other, automatically. In the opinion of the Judges this was a suitable plant for dealing with small quantities of sewage.

No. 4466.—*Extension Ladder*.—Exhibited by the Motewood Company. This was a handy, light, and very strong ladder. It was constructed with steel ribs along the back, put on when the wooden sides were sprung like a bow, thus giving increased strength by the resistance of the two. One length of the ladder was tested by the Judges, 4 cwt. being placed in the centre. It stood the strain well, and returned to its original shape afterwards. The trip arrangement was strong, simple, and very efficacious.

After having made an inspection of the various exhibits entered as NEW IMPLEMENTS, the Judges decided to award a Silver Medal to the Lamp Pump, No. 3881, exhibited by the Lamp Pump Syndicate, Ltd., Carey Street, Westminster, S.W.

As machine No. 467, entered by Sharp's Auto-Mower and Tractor Co., York, was shown in a broken state, as machine No. 1378 (*Butter Separator*) entered by the Swiftsure Syndicate, Liverpool, was quite novel in the way it worked the cream, but could not be tested under satisfactory conditions, and as the two Turnip Thinners, No. 324, exhibited by Ord & Maddison, Ltd., Darlington, and No. 2135, by the Yorkshire Patent Drill Co., Kirbymoorside, could not be tested at work, the Judges recommend that these four machines be allowed to enter as NEW IMPLEMENTS at the next Show.

During the inspection by the Judges of the various implements on the stands in the Show Yard, it was noticed that the following were worthy of mention:—

No. 158.—*Milking Machine*.—By J. & R. Wallace, Castle Douglas (R.A.S.E. Silver Medal, Park Royal, 1905), altered and improved since receiving the medal in 1905.

This machine is operated by vacuum, created by a small engine and air pump attached to a cylinder where a constant vacuum is maintained, and connected by pipes placed in a convenient position along the stalls or shed where the cows are housed. The milking cans when being used are coupled up, by pieces of indiarubber piping, on to the fixed pipe and moved along to the next cow as required.

In the opinion of the Judges this machine appears to have overcome the difficulties hitherto experienced of being harmful to the cow and also of not finishing off milking without stripping.

No. 698.—*Clover Huller*.—Exhibited by Ruston, Proctor & Co., Ltd., Lincoln. This machine was very well constructed and finished. It had many points worthy of the attention of clover seed growers, one of which was demonstrated by the splendid sample made at the time of threshing.

No. 1932.—*Scarifier* (improved double disc).—Exhibited by Thomas Hunter & Sons, Maybole. This is a very useful implement, on a novel principle, for cleaning turnips, man-golds, &c., where grown on the ridge. It is also good for cleaning strawberries and cutting off the runners.

No. 1993.—*Hay Sweep* (Mugleston's Patent).—Exhibited by the Maldon Ironworks Co., Maldon, Essex. This is a machine, drawn by two horses, for collecting hay or clover and for taking the same to the elevator for stacking without having to be handled by workmen. It appears to be a very efficient and great labour saving implement where the fields are large and the produce is stacked on the spot.

No. 3242.—*Hay Rick Builder* (or mould).—For building pikes in the hay or clover field. Exhibited by Gregg & Co., Exchange Street, Belfast. This appliance was quite a new idea and consisted of an inverted cone, or mould, into which the hay is thrown and trampled down by a man or boy. It was stated that three men could build a pike or cock in ten minutes which would be nearly weather proof, and that it dispensed with raking or tying down.

No. 3594.—*Root Cleaner and Cutter Combined*.—By Harrison MacGregor & Co., Ltd., Leigh, Lancashire. This machine is well and strongly constructed and will do good work; the advantage being that the revolving screen which cleans the roots before cutting can be raised or lowered at one

end, so that the roots can be kept in the cleaner for a longer or shorter period as desired, according to the time required to clean them.

No. 3867.—“*Empire*” *Gas Generator*.—Exhibited by Richard Thornton, Gosforth, Newcastle. This is a petrol gas-making plant for mansions, estates, or private houses. It is a very well arranged appliance taking up little space, and capable of producing gas for a large number of burners.

It was very deeply regretted that the valuable services of the Consulting Engineer were not available on account of a sad bereavement sustained during the Show; but my colleague (Mr. James Younger) and myself wish to thank his assistant (Mr. Amos) for the very great help rendered during the inspection of the various implements on the stands.

The Judges' thanks are also due to the Implement Stewards (Mr. R. M. Greaves and Mr. Claude M. S. Pilkington) for their invaluable assistance and kindness to them during the judging of the New Implements and inspection of the other exhibits on the Show Ground.

Before concluding I wish to express my best thanks to my esteemed colleague for his kind courtesy and valued services rendered to me during the time we were engaged in inspecting and judging the Implements.

FRANK MARTIN.

Hubberts Bridge,
nr. Boston,
Lincolnshire.

MILK AND BUTTER TESTS AT THE NEWCASTLE SHOW, 1908.

I.—MILK-YIELD TESTS.

THE prizes offered in these classes were of the same value as at Derby in 1906, the extra prizes given by the Lincolnshire Red Short-horn Society in 1907 not being forthcoming this year. In all other respects the trials were identical with those of the past two years, the conditions and practice for carrying them out being the same as before.

The scale of points which governed these competitions being the same as in previous years, it may be thought unnecessary to insert them here, but as I propose to suggest that

the standard be slightly raised, I have given them at length for the sake of reference. The points are as follows :—

One Point for every 1 lb. of milk.

One Point for every completed ten days since calving, deducting the first forty days. Maximum points for lactation 12.

Four points for every one per cent. of fat shown on the average of the two milkings.

Cows whose milk shows less than an average of 3 per cent. of fat on the two milkings to be disqualified.

Fractions of lbs. of milk, percentages of fat, and incomplete periods of less than ten days to be worked out in decimals, and added to the total points.

No Prize or Commendation to be awarded to cattle which do not obtain the following points :—

	Cows 5 years old and over	Cows and heifers under 5 years of age
Shorthorn, Lincolnshire Red Short-horn, } South Devon, Red-Polled, Ayrshire, } Jersey, Guernsey, or Longhorn . . . }	55	50
Kerry or Dexter	40	35

In the case of cows obtaining the same number of points, the Prize to be awarded to the cow which has been the longest time in milk.

Highly Commended Cards to be awarded to all animals other than winners of the Prizes which reach the above standard.

The competing cattle were stripped on the evening of the Judging Day, June 30, at 5 p.m., the milk of the next twenty-four hours being taken for the trials. Both the morning and evening milks, after being weighed, were sampled by Dr. Voelcker for analysis.

I call special attention to the fact that the trials were commenced on the evening of the first day of the Show, when many of the animals had been in the ring, and consequently had not been milked out at the usual hour in the morning. In my opinion, it would be preferable if these trials could be deferred for one day, taking the milk of the third day of the Show instead of the second day, and publishing the results on the Friday instead of the Thursday as is at present the case, since the cows have not got back to their milk on the Wednesday morning, which in a milk-yield trial should be if possible avoided.

The full results of the trials in the breed milk-yield classes will be found in Table I. on pp. 190 and 191, while Table II., page 192, gives the particulars of the cows entered for the special prizes, this class forming the champion class and being open to all breeds.

The next table, No. III., gives the number of cattle competing under their breed headings, together with the numbers that were present at the Derby and Lincoln meetings in 1906 and 1907.

TABLE I.—MILK-YIELD CLASSES AT NEWCASTLE, 1908.

No. in Catalogue	Exhibitor	Name of cow	Date of birth	Date of last calf	No. of days in milk	Total yield in 24 hours	Points			Awards
							Fat per cent.	Lactation	Total	
						Lb. oz.	Milk	by 4		
Class 103										
1002	C. R. W. Adeane.	Ingram's Rose	Apr. 15, 1899	Apr. 14	78	33 0	3.43	33.00	13.72	5052
11008	Lord Rothschild.	Darlington Cranford 5th	Oct. 26, 1897	Apr. 9	83	78 12	4.00	78.75	16.00	430 9905
Class 109										
1009	Lord Rothschild.	Gift 2nd	Aug. 4, 1901	May 23	39	47 14	3.38	47.87	13.52	Nil 61.39
1010	Lord Rothschild.	Moppy Gem 5th	Apr. 10, 1897	May 31	31	58 4	3.13	58.25	12.52	Nil 70.77
1015	G. W. Tyser.	Darlington Cran	Apr. 12, 1902	May 11	51	44 0	3.03	44.00	12.20	1.10 57.30
1022	Marquis of Winchester	Amport Ursulina	Nov. 5, 1904	Mar. 7	116	32 2	2.97	32.12	11.88	7.60 51.60
Class 113										
1051	Earl Egerton of Tatton	Lincolnshire Reds	Sept. 17, 1901	Apr. 7	85	46 14	3.15	46.87	12.60	4.50 63.97
1052	John Evans.	Enderby Lass 4th	Aug. 24, 1900	Apr. 24	68	52 14	3.83	52.87	15.32	2.80 70.99
1053	John Evans.	Burton Cork 3rd	Aug. 24, 1900	June 9	22	36 6	3.25	36.37	15.00	Nil 61.37
1054	John Evans.	Burton Quality 5th	Dec. 6, 1904	Jan. 22	161	44 4	3.80	44.25	15.20	12.00 71.45
Class 129										
1167	W. P. Vosper	South Devons	Sept. 10, 1896	Jan. 22	161	44 4	3.80	44.25	15.20	12.00 71.45
1170	W. & H. Whitley.	Cowship 5th	Feb. 28, 1901	May 11	61	49 8	2.87	49.50	11.48	2.10 63.08
1171	J. S. Wroth.	Fancy	June 18, 1897	May 4	58	53 10	3.98	53.62	13.92	1.80 71.34
Class 145										
1242	T. Brown & Son.	Nosegay 4th	Jan. 4, 1900	Apr. 17	75	43 12	3.25	43.75	13.00	3.50 60.25
1243	Sir W. Corbet, Bt.	Red Follid	Oct. 8, 1901	May 4	58	33 4	3.90	33.25	15.60	1.80 50.65
1247	Lord Rothschild.	Frill	May 29, 1900	Mar. 1	122	40 6	2.57	40.37	10.28	8.20 58.85
Class 148										
1417	J. Howie	Nellie 6th	Dec. 1, 1898	Apr. 24	68	59 12	3.90	59.75	15.60	2.80 78.15
1418	A. W. & I. Kerr	Clarissa	July 15, 1902	Apr. 28	66	40 8	3.25	40.50	13.00	2.60 56.10
1420	W. Nisbet	Lorna Doone	Mar. 29, 1900	May 11	51	46 6	3.08	46.37	12.32	1.10 59.79
Class 176										
1451	Lord Rothschild.	Silk	Sept. 1903	Apr. 19	73	59 12	3.25	59.75	13.00	3.30 76.05
1453	J. Carson	Midland Greenfield	Dec. 25, 1900	June 14	17	40 10	3.95	40.62	15.40	Nil 56.02
1456	J. de Knoop.	Old Grainey Soncie 7th	July 12, 1903	Feb. 20	132	54 4	3.40	54.25	13.60	9.20 77.05
1458	J. de Knoop.	Dalffbble Daisy Bell	Feb. 12, 1900	Mar. 23	100	29 8	4.60	29.50	18.40	6.00 53.90
1460	Lady de Rothschild	Jersey	June 12, 1900	Feb. 19	133	24 14	5.28	24.87	21.12	9.30 55.23
1461	T. R. B. Elliot	Blue Poppy	June 4, 1899	Apr. 1	91	32 0	5.90	32.62	23.90	5.10 61.32
1462	T. R. B. Elliot	China Belle 2nd	Mar. 10, 1899	Mar. 31	92	40 6	4.65	40.37	18.60	5.20 64.17
1465	Mrs. McIntosh	Oakland's Beauty	Mar. 12, 1902	Mar. 11	112	31 8	4.53	31.50	18.12	7.20 56.82
1467	A. Miller-Hallett.	Lady Phyllis	Oct. 11, 1903	May 3	59	35 14	4.30	35.87	17.20	1.90 54.97
		Credita	May 20	42	27 4	5.20	27.25	20.80	2.0	48.25
		Victoire	May 19	73	48 10	3.85	48.62	15.40	3.30	67.32
		Frolicsome 5th	Jan. 1, 1904	Apr. 19	73	48 10	3.85	48.62	15.40	3.30 67.32
		Lady Viola	Apr. 28, 1899	May 16	46	36 2	4.88	36.12	19.52	6.0 56.24
11468	A. Miller-Hallett.	Vanilla 2nd	Apr. 15, 1900	May 10	52	45 14	3.52	45.87	14.08	1.20 61.15

1 These animals were also entered for the Special Milk-yield Competition (Class 195), see Table II., page 192. 2 S.C. = Special Class.

TABLE I.—MILK-YIELD CLASSES AT NEWCASTLE, 1908—continued.

No. in Catalogue	Exhibitor	Name of cow	Date of birth	Date of last calf	No. of days in milk	Total milk yield in 24 hours	Points			Awards
							Fat per cent.	Lactation	Total	
						Lb. oz.				
<i>Jerseys—continued.</i>										
Class 176	Lord Rothschild	Ardath	Apr. 10, 1902	1908	79	37 12	37.8	1512	390	56.77 H.C.
1470	Lord Rothschild	My Brunette	Apr. 31, 1895	Mar. 13	92	37 12	44.0	1175	520	R.H.C.
1472	J. H. Smith-Barry	Marigold	June 7, 1901	Jan. 15	168	41 14	47.0	1880	1200	72.67 1st Prize.
1474	J. H. Smith-Barry	Post Obit	Mar. 23, 1904	Apr. 20	72	46 14	—	46.25	320	Not sampled in even- ing.
1475	Marquis of Winchester	Wench	May 6, 1899	Jan. 17	166	31 12	6.30	31.75	1200	68.95 2nd Prize.
1477	Marquis of Winchester	Goddington Foxglove	Apr. 21, 1905	Apr. 24	68	42 2	4.13	42.12	1652	H.C.
1484	A. Miller-Hallett	Jubilee May 2nd	Jan. 1, 1905	Apr. 7	85	37 4	3.90	37.25	450	H.C.
Class 182	Earl Cadogan	<i>Guernseys</i>								
1333	F. Hargreaves	Felois	July 18, 1897	June 3	28	42 6	3.90	42.37	1560	Nil 2nd Prize.
1334	H. F. Plumtre	Melanie of Goodnestone 2nd	Sept. 27, 1900	Feb. 17	135	35 12	4.48	35.75	1792	9.50 1st Prize.
1335	H. F. Plumtre	Muriel 12th.	Apr. 16, 1901	June 12	19	36 4	4.03	36.25	1612	Nil 52.37 —
1336	Lady Tichborne	Itchen Dairymaid	Aug. 1, 1900	June 8	23	40 10	3.98	40.62	1592	Nil 56.54 3rd Prize.
1337	Lady Tichborne	Itchen Pearl 2nd	Mar. 29, 1904	May 9	53	39 0	3.95	39.00	1380	1.30 56.10 R.H.C.
Class 185	Lord Gerard	<i>Langhorns</i>								
1550	Lord Gerard	Bentley Dido	Jan. 11, 1904	May 12	50	28 12	3.57	28.75	1428	1.00 44.03 —
1552	W. H. Sale	Countess of Dean	May 31, 1902	June 3	28	37 8	3.73	37.50	1492	Nil 52.42 —
1553	C. T. Scott	Perry 3rd	Jan. 13, 1902	May 16	46	19 10	4.55	19.62	1820	.60 38.42 —
1554	C. T. Scott	Taverner's Dark Pansy	Apr. 19, 1896	May 3	59	36 4	4.45	36.25	1780	1.90 55.95 1st Prize.
Class 189		<i>Kerries</i>								
1563	Lady Greenall	Aicme Cold.	March, 1896	May 19	43	35 12	2.95	43.75	1180	.30 55.85 Below Fat Standard.
1564	Lady Greenall	Maple 4th of Carlton	Mar. 8, 1899	Mar. 1	122	45 10	4.70	35.62	1880	8.20 62.62 1st Prize.
1565	Duchess of Newcastle	Hardwick Pearl	May 10, 1902	May 11	38	30 10	3.80	33.62	1520	Nil 48.82 3rd Prize.
1566	G. L. Palmer	Lackham Fern	1903	May 24	51	38 14	2.73	38.87	1092	1.10 50.89 Below Fat Standard.
1567	G. L. Palmer	Mollig Druabh	May 25, 1898	June 2	29	34 0	—	34.00	Nil	Not sampled.
1568	R. T. Robertson	Gort Primrose	1901	June 9	114	28 4	3.05	28.25	1220	7.40 47.85 R.H.C.
1569	E. Royds	C-aythorpe Daisy	Apr. 21, 1904	Mar. 28	95	27 14	4.18	27.87	1672	5.50 50.09 2nd Prize.
1570	J. L. Thilston	Belvedire Nora.	Mar. 24, 1901	May 12	50	44 14	2.38	44.87	952	1.00 55.39 Below Fat Standard.
Class 194		<i>Deaters</i>								
1385	H.M. The King	Compton Dolly Varden	May 19, 1903	Feb. 26	126	17 0	4.13	17.00	1652	8.60 42.12 H.C.
1386	H.M. The King	W. terville Judy	June, 1902	May 2	60	37 4	3.30	37.25	1390	2.00 52.45 2nd Prize.
1387	B. de Bertodano	Cowbridge Dainty Dish	March, 1902	Mar. 12	111	37 6	2.78	37.37	1112	7.10 55.59 Below Fat Standard.
1389	B. de Bertodano	La Mancha Sweet Nell	1901	Mar. 23	94	34 14	3.45	34.87	1380	5.40 54.07 1st Prize.
1591	R. T. Robertson	Gort Sunbeam	1903	May 1	61	26 0	4.15	26.00	1660	2.10 44.70 R.H.C.
1592	R. T. Robertson	Summerfield Meg	1903	May 8	54	34 8	3.35	34.50	1340	1.40 49.30 3rd Prize.
1595	H.M. The King	La Mancha Marjorie	1905	Apr. 27	65	36 0	2.83	36.00	1132	2.50 49.82 Below Fat Standard.

¹ These animals were also entered for the Special Milk-yield Competition (Class 195), see Table II., page 192.

TABLE II.—CLASS 195.—SPECIAL MILK-YIELD CLASSES FOR COWS OF ANY AGE, BREED, OR CROSS.

No. in Catalogue	Exhibitor	Name of cow	Breed	Date of birth	Date of last calf	No. of days in milk	Total milk yield in 24 hours	Fat percentage	Points			Awards	
									Milk	Fat per cent. by 4	Lactation		Total
1008	Lord Rothschild	Darlington Cranford 5th	Shorthorn	Oct. 26, 1897	1908	83	Lb oz.	4.00	78.75	16.00	4.30	99.05	1st Prize, 20l. H.C.
1010	Lord Rothschild	Moppy Gem 5th	Shorthorn	Apr. 10, 1897	Apr. 31	31	58 4	3.13	58.25	12.52	Nil	70.77	H.C.
1014	George Taylor	Oxford Alma	Shorthorn	Apr. 10, 1897	May 14	48	—	—	—	—	—	—	H.C.
1052	John Evens	Burton Cork 3rd	Lincoln Red	Aug. 24, 1900	Apr. 24	68	52 14	3.83	52.87	15.32	2.80	70.99	H.C.
1053	John Evens	Burton Quality 5th	Lincoln Red	Dec. 6, 1904	June 9	22	36 6	6.25	36.37	25.00	Nil	61.37	H.C.
1054	John Evens	Burton Ruby Spot	Lincoln Red	Sept. 10, 1896	Jan. 22	161	44 4	3.00	44.25	13.20	12.00	71.45	H.C.
1167	W. P. Vosper	Cowslip 5th	Sth Devon	Feb. 28, 1901	May 1	61	49 8	2.87	49.50	11.48	2.10	63.08	Below Fat Standard
1170	W. & H. Whitley	Fancy	Sth Devon	June 18, 1897	May 4	58	53 10	3.98	53.62	15.92	1.80	71.34	H.C.
1171	J. Sparrow Wroth	Nosegay 4th	Sth Devon	Jan. 4, 1900	Apr. 17	75	43 12	3.25	43.75	13.00	3.50	69.25	H.C.
1247	Lord Rothschild	Clarissa	Red Poll	Dec. 1, 1898	Apr. 24	68	59 12	3.90	59.75	15.60	2.80	78.15	3rd Prize, 5l. H.C.
1417	James Howie	Midland Greenfield	Ayrshire	Dec. 25, 1900	Apr. 20	73	59 12	3.25	59.75	13.00	3.30	76.05	H.C.
1420	Wm. Nisbet	Dalbolic Daisy Bell	Ayrshire	Mar. 12, 1902	Feb. 20	132	54 4	3.40	54.25	13.60	9.20	77.05	R.H.C.
1465	Mrs. McIntosh	Lady Phyllis	Jersey	Dec. 25, 1900	Mar. 11	112	31 8	4.53	31.50	18.12	7.20	56.82	H.C.
1467	A. Miller-Hallett	Frolicsome 5th	Jersey	Jan. 1, 1904	Apr. 19	73	38 10	3.83	38.62	15.40	3.30	67.32	H.C.
1468	A. Miller-Hallett	Lady Viola	Jersey	Apr. 28, 1899	May 16	46	36 2	4.88	48.62	19.52	4.00	56.24	H.C.
1474	J. H. Smith-Barry	Vanilla 2nd	Jersey	Apr. 15, 1900	May 10	52	45 14	3.52	45.87	14.08	1.20	61.15	H.C.
1475	J. H. Smith-Barry	Margold	Jersey	Jan. 7, 1901	Jan. 15	168	41 14	4.70	41.87	18.80	12.00	72.67	H.C.
1477	J. H. Smith-Barry	Post Obit	Jersey	Mar. 23, 1904	Apr. 20	72	46 4	—	46.25	18.80	3.30	—	Not sampled in evening
1534	The Marquis of Winchester	Wench	Jersey	May 6, 1899	Jan. 17	166	31 12	6.30	31.75	25.20	12.00	68.95	H.C.
1608	H. F. Plumtre	Melanie of Goodnestone 2nd	Guernsey	Sep. 27, 1900	Feb. 17	135	35 12	4.48	35.75	17.92	9.50	63.17	H.C.
1609	John Bay	Heather Bloom	Guernsey	Unknown	May 11	51	53 6	2.95	53.37	11.80	1.10	69.27	Below Fat Standard
1610	John Evens	Burton Milker	Shorthorn	1902	Mar. 5	118	56 8	4.83	56.50	19.32	7.80	83.62	2nd Prize, 10l. H.C.
	John Evens	Tozzle	Shorthorn	1900	Apr. 15	77	58 14	3.28	58.87	13.12	3.70	75.69	H.C.

Animals entered in the Milk-yield Classes of the various Dairy Breeds were also eligible for entry in Class 195. For the awards to such animals, see Table I. on pp. 190 and 191.

The 1st and 3rd prizes in Class 195 were awarded to No. 1008 in Class 103, and No. 1247 in Class 145.

TABLE III.

Breed	Derby, 1906	Lincoln, 1907	Newcastle, 1908
Shorthorns	10	12	8
Lincolnshire Red Short-horns .	4	8	4
South Devons	2	2	3
Red Polled	6	6	5
Ayrshires	1	4	3
Jerseys	18	9	17
Guernseys	8	6	5
Longhorns	1	2	4
Kerries	5	5	8
Dexters	8	10	7
Crossbred	—	1	1
Total	63	65	65

In reports of such trials as these there must of necessity be a sameness. I therefore make no apology for following the lines of previous reports, and giving two more tables—one showing the average of the milk yields of the various breeds in the breed classes, and the other the averages of those cows, under their breed headings, which were also entered in the special or champion class. I have omitted, as in former years, the particulars of the cross-bred cows, since their lack of pedigree makes them worthless.

TABLE IV.—*Averages of Cattle entered in the Breed Milk-yield Classes.*

No. of cows com- peting	Breed	Days in milk	Milk	Fat per cent.	Points			
					Milk	Fat	Lacta- tion	Total
6	Shorthorns	66	Lb. oz. 49 0	3.32	49.00	13.28	2.60	64.88
4	Lincoln. Red do.	84	45 1 $\frac{1}{2}$	4.28	45.09	17.12	4.40	66.61
3	South Devons	64	48 15 $\frac{1}{2}$	3.36	48.95	13.44	2.40	64.79
5	Red Polled	73	44 0 $\frac{1}{2}$	3.34	44.04	13.36	3.30	60.70
3	Ayrshires	74	51 8 $\frac{3}{4}$	3.50	51.54	14.00	3.40	68.94
16	Jerseys	91	36 9 $\frac{1}{4}$	4.62	36.56	18.48	5.10	60.14
5	Guernseys	51	38 12 $\frac{4}{5}$	4.06	38.79	16.24	1.10	56.13
4	Longhorns	45	30 8 $\frac{1}{2}$	4.07	30.53	16.28	.50	47.31
7	Kerries	73	36 2	3.39	36.12	13.56	3.30	49.59
7	Dexters	81	31 13 $\frac{3}{4}$	3.42	31.85	13.68	4.10	49.63

NOTE.—The yields of milk and particulars of one Jersey and one Kerry are left out in these figures, as in both cases the herdsmen omitted at one milking to take their milk to Dr. Voelcker for analysis.

TABLE V.—*Averages of Cattle entered in the Special Milk-yield Class.*

No of cows competing	Breed	Days in milk	Milk	Fat per cent.	Points			
					Milk	Fat	Lactation	Total
4	Shorthorns	77	Lb. oz. 63 1½	3·81	63·09	15·24	3·70	82·03
3	Lincoln. Red do.	83	44 8	4·62	44·50	18·48	4·30	67·28
3	South Devons	64	48 15½	3·36	48·95	13·44	2·40	64·79
1	Red Polled	68	59 12	3·90	59·75	15·60	2·80	78·15
2	Ayrshires	102	57 0	3·32	57·00	13·28	6·20	76·48
6	Jerseys	102	39 4⅔	4·63	39·29	18·52	6·20	64·01
1	Guernseys	135	35 12	4·48	35·75	17·92	9·50	63·17

As in former years, several animals were disqualified on account of their milk being below the standard, while, as mentioned above, two cows were prevented by the carelessness of their herdsmen from competing.

The following cows gave milk below the standard of 3 per cent. fat :—

1 Shorthorn	out of an entry of 8
1 South Devon	3
1 Red Polled	5
3 Kerries	8
2 Dexters	7
1 Cross-bred	1

If the points awarded to each animal in Table I. are examined it will be seen that in almost every instance the points gained qualified the animal to receive a prize, even in those cases where the cows were disqualified because their milk contained less than the average standard of 3 per cent. fat.

The following will make this clear :—

5 Shorthorns	out of 6 competing	gained the necessary points.
4 Lincolnshire Red Short-horns	out of 4 competing	gained the necessary points.
3 South Devons	out of 3 competing	gained the necessary points.
4 Red Polled	" 5	" " "
3 Ayrshires	" 3	" " "
¹ 15 Jerseys	" 16	" " "
4 Guernseys	" 5	" " "
1 Longhorn	" 4	" " "
¹ 7 Kerries	" 7	" " "
7 Dexters	" 7	" " "

¹ The Jersey and Kerry cows whose milk was not analysed are not included in the above figures

In the special class every animal gained the minimum points. From the above it would appear that the points in certain cases would bear revision, as the object of the trials is to improve the milking capabilities of the various breeds, which object will be defeated if the standard is too low, since a commended card should be a certificate of the fitness of the animal to improve the milking properties of the particular breed it represents.

In my opinion, the points might for the future stand as follows :—

	Cows 5 years and over.	Cows and Heifers under 5 years.
Shorthorn, Lincolnshire Red Short-horn, and South Devon }	60	55
Red Polled, Ayrshires, Jerseys, Guernseys, and Longhorns }	55	50
Kerries and Dexters	45	40

II.—BUTTER TESTS (CLASS 196, A & B).

Twenty-six cows competed in these classes at Newcastle, as against thirty-five last year at Lincoln, the prize money being the same as before, but it must be remembered that the northern counties do not take the same interest in the dairy as the more southern parts of the country.

The trials were carried out under similar conditions, and the same points as in previous years, which are as follows :—

One point for every ounce of butter.

One point for every completed ten days since calving, deducting the first forty days. Maximum allowance for period of lactation, 12 points.

Fractions of ounces of butter and incomplete periods of less than ten days to be worked out in decimals and added to the total points.

No Prize or Commendation to be given to Cows under five years old failing to obtain 28 points (or in the case of Jerseys, 30 points), or to Cows five years old and over failing to obtain 32 points (or in the case of Jerseys 35 points).

The cows were stripped on Tuesday evening, June 30, at 5 p.m., the milk of the next twenty-four hours being taken for the tests.

The same objection to the date for commencing these trials that I have mentioned in the report of the milk-yield classes equally applies here.

The cows, after being stripped, were weighed and divided into their respective classes of over and under 900 lb. live weight.

The following table gives the full results of the trials :—

TABLE VI.—RESULTS OF BUTTER TESTS AT NEWCASTLE, JULY 1, 1908.

CLASS 196 A.—COWS IN-MILK, OF ANY AGE, BREED OR CROSS, EXCEEDING 900 LB. LIVE WEIGHT. 14 ENTRIES.

No. in Catalogue	Exhibitor	Name of cow	Breed	Live weight	Date of birth	Date of last calf	No. of days in milk	Milk yield in 48 hours	Butter yield	Ratio, viz., lb. milk to lb. butter	Colour and quality of butter		No. of points for butter	No. of points for lactation	Total No. of points	Awards	CHURNING TABLE						
											Colour	Quality					Time	Temperature, ° F.					
																			Began	Finished	Duration (minutes)	Dairy	Cream and churn	Buttermilk
1008	Lord Rothschild.	Darlington Cranford 3rd.	Shorthorn	Lb.	Oct. 6, '97	1908		Lb. oz.		25.71	Very poor	Poor	49.00	430	53.30	1st prize, 15 $\frac{1}{2}$, and 1st S.P., 20 $\frac{1}{2}$, H.C.	10 21 $\frac{1}{2}$	4	43	71	52	59	
1052	J. Evens.	Burdock 3rd.	Line'n Red	1477	Aug. 24, '99	April 24	63	52 14	2 7	21.69	Good	Very good	30.00	280	41.80	H.C.	2 38	2 58	20	76	52	53	
1053	J. Evens.	Burdock 5th.	Line'n Red	1386	Dec. 6, '94	June 9	22	36 6	1 12 $\frac{1}{2}$	20.80	Very good	Very good	28.25	Nil	28.25	H.C.	2 34	2 53	19	76	52	53	
1054	J. Evens.	Burton Ruby Spot.	Line'n Red	1568	Sept. 10, '96	Jan. 22	161	44 4	1 12 $\frac{1}{2}$	24.84	Good	Very good	28.50	1200	40.50	H.C.	10 21 $\frac{1}{2}$	5	44	71	52	62	
1167	W. P. Vesper.	Cowslip 5th.	S. Devon	1320	Feb. 28, '01	May 1	61	49 8	1 6 $\frac{1}{2}$	34.81	Good	Very good	22.75	210	24.85	—	10 17	11	10	71	52	63	
1170	W. & H. Whitely.	Fancy	S. Devon	1491	June 18, '97	May 4	58	53 10	2 3 $\frac{1}{2}$	24.34	Very good	Good	35.25	180	37.05	H.C.	10 19	10	45	30	71	52	57
1171	J. Sharrow Wroth.	Noesgay 4th.	S. Devon	1540	Jan. 4, '99	April 17	75	43 12	1 6 $\frac{1}{2}$	30.76	Good	Good	22.75	350	26.25	—	10 24	10	54	30	72	52	58
1420	W. Nisbet.	Dalbille Daisy Bell.	Ayrshire	1029	Dec. 25, '99	Feb. 20	132	54 4	1 14 $\frac{1}{2}$	28.99	Good	Fair	30.25	920	39.45	H.C.	10 28	11	14	46	72	52	59
1460	Lady de Rothschild.	Lady Phyllis	Jersey	1015	May 12, '02	March 11	112	31 8	1 9	20.16	Fair	Good	25.00	720	32.20	—	10 37	11	7	30	72	52	57
1474	J. H. Smith-Barry.	Marigold	Jersey	945	Jan. 7, '01	Jan. 15	168	41 14	2 2 $\frac{1}{2}$	19.28	Excellent	Very good	34.75	1200	46.75	H.C., Reserve for S.P., Silver & E.C.S.	11 41	12	31	74	52	57	
1477	The Marquis of Winchester	Wench	Jersey	945	May 6, '99	Jan. 17	166	31 12	2 3 $\frac{1}{2}$	14.41	Fair	Very good	35.25	1200	47.25	3rd prize, 5 $\frac{1}{2}$, 3rd S.P., 2 54 $\frac{1}{2}$, and E.C.S., Gold Medal.	11 10	12	50	100	74	52	60
1534	H. F. Plimpre	Melanie of Goodnesone 2nd	Guernsey	1099	Sept. 27, '00	Feb. 17	135	25 12	1 12 $\frac{1}{2}$	19.89	Excellent	Very good	28.75	950	38.25	H.C.	2 22	2	55	33	76	52	58
1609	J. Evens.	Burton Milker	Shorthorn	1190	1902	March 5	118	56 8	2 9 $\frac{1}{2}$	21.65	Good	Very good	41.75	780	49.55	2nd Prize, 10 $\frac{1}{2}$, and 2nd S.P., 4 $\frac{1}{2}$, H.C.	2 14	2	45	31	76	52	56
1610	J. Evens.	Tozzle	Shorthorn	1470	1901	April 15	77	58 14	2 1 $\frac{1}{2}$	27.91	Fair	Very good	33.75	370	37.45	H.C.	2 17	2	47	30	76	52	55

* The "Butter Ratio" represents the number of lb. of milk required to make 1 lb. of butter. Ten lb. of milk are reckoned as equal to an imperial gallon.

† Special Prize of the English Jersey Cattle Society.

TABLE VI.—RESULTS OF BUTTER TESTS AT NEWCASTLE, 1908—continued.

CLASS 196 B.—COWS IN-MILK, OF ANY AGE, BREED OR CROSS NOT EXCEEDING 900 LB. LIVE WEIGHT. 12 ENTRIES.

No. in Catalogue	Exhibitor	Name of cow	Breed	Live weight	Date of birth	Date of last calf	No. of days in milk	Milk yield in 48 hours	Butter yield	Ratio, viz. lb. milk to lb. butter	Colour and quality of butter		No. of points for butter	No. of points for lactation	Total No. of points	Awards	CHURNING TABLE					
											Colour	Quality					Began	Finished	Duration (minutes)	Dairy Cream and churn	Temperature, ° F.	
				Lb.		1908		Lb.oz.	Lb.oz.													
1456	J. de Knoop	China Belle 2nd	Jersey	742	June 4, '99	April 1	91	32 10	2 4	1450	Excellent	Very good	3600	510	4110	1st prize 1st & J.C.S. Bronze Medal	10 33	11 1	28	72	52	56
1458	J. de Knoop	Oaklands Beauty	Jersey	819	Mar. 10, '99	Mar. 31	92	40 6	2 1	1957	Good	Very good	3300	520	3820	2nd prize 10L	10 28	11 16	48	72	52	60
1461	T. R. B. Elliot	Credita	Jersey	784	Oct. 11, '03	May 3	59	35 14	1 12½	1996	Good	Excellent	2875	190	3065	H. C. & Cert. of Merit	10 38	11 10	32	72	52	58
1462	T. R. B. Elliot	Victoire	Jersey	819	May 7, '03	May 20	42	27 4	1 11½	1600	Good	Excellent	2725	20	2745	—	11 22	12 1	39	72	52	61
1465	Mrs. McIntosh	Frollesome 5th	Jersey	868	Jan. 1, '04	Apr. 19	73	48 10	1 13½	3112	Excellent	Good	2925	330	3255	H. C. & Cert. of Merit	11 10	11 34	24	72	52	58
1467	A. Miller-Hallett	Lady Viola	Jersey	770	Apr. 23, '99	May 16	46	36 2	2 0½	1764	Very good	Excellent	3275	60	3335	—	11 55	12 30	35	74	52	61
1468	A. Miller-Hallett	Vanilla 2nd	Jersey	815	Apr. 15, '00	May 10	52	45 14	1 12½	2598	Very good	Very good	2825	120	2945	—	11 26	12 4	38	72	52	59
1472	Lord Rothschild	My Brunette	Jersey	875	1895	Mar. 31	92	41 12	2 0	2087	Poor	Good	3500	520	3720	R. H. C. & Cert. of Merit	11 39	12 20	41	74	52	60
1475	J. H. Smith-Barry	Post Obit	Jersey	875	Mar. 23, '04	Apr. 20	72	46 4	2 2½	2129	Very good	Good	3475	320	3795	3rd prize, 5L	11 52	12 15	23	74	52	58
1478	Earl Cadogan	Jubilee May 2nd	Jersey	742	Jan. 1, '05	April 7	85	37 4	1 9	2384	Poor	Good	2500	450	2950	—	2 25	3 0	35	76	52	59
1611	J. Carson	Mary's Beauty	Jersey	882	Oct. 7, '00	Mar. 5	118	36 6	1 12½	2024	Good	Fair	2875	780	3655	H. C. & Cert. of Merit	2 19	2 55	36	76	52	58
1612	Lord Rothschild	Silver Spray	Jersey	882	Mar. 23, '04	Mar. 22	101	29 10	1 12	1692	Fair	Very good	2800	610	3410	H. C. & Cert. of Merit	2 10	2 53	43	76	52	60

¹ The "Butter Ratio" represents the number of lb. of milk required to make 1 lb. of butter. Ten lb. of milk are reckoned as equal to an imperial gallon.

Table VII. gives the number of cattle competing under their respective breeds, with the corresponding numbers at Derby and Lincoln in 1906 and 1907.

TABLE VII.—*Number of Cattle entered under their respective Breeds.*

Breed	Derby, 1906	Lincoln, 1907	Newcastle, 1908
Shorthorns	2	4	3
Lincolnshire Red Short-horns .	2	8	3
South Devons	2	2	3
Red Polled	—	1	—
Ayrshires	—	—	1
Jerseys	17	14	15
Guernseys	2	4	1
Longhorns	—	1	—
Crossbred	—	1	—
Total	25	35	26

The next table gives the full particulars of the prize winners in the two classes, and the awards of the medals offered by the English Jersey Cattle Society for Jersey cows.

TABLE VIII.—*Prize Winners in Butter-test Competition.*

CLASS 196 A.—COWS EXCEEDING 900 LB. LIVE WEIGHT.

Name of exhibitor	Name of cow	Breed	Live weight	Days in milk	Milk	Butter	Ratio	Points	Result
			Lb.		Lb. oz.	Lb. oz.	Lb.		
Lord Rothschild	Darlington Cranford 5th . . .	Sh'thorn	1498	83	78 12	3 1	25'71	53'30	1st Prize & 1st S. P. of 20l.
J. Evens . . .	Burton Milker . . .	Sh'thorn	1190	118	56 8	2 9½	21'65	49'55	2nd Prize & 2nd S. P. of 10l.
The Marquis of Winchester .	Wench . . .	Jersey	945	166	31 12	2 3¼	14'41	47'25	3rd Prize & 3rd S. P. of 5l.

CLASS 196 B.—COWS 900 LB. LIVE WEIGHT AND UNDER.

J. de Knoop . .	China Belle 2nd .	Jersey	742	91	32 10	2 4	14'50	41'10	1st Prize
J. de Knoop . .	Oaklands Beauty .	Jersey	819	92	40 8	2 1	19'57	38'20	2nd Prize
J. H. Smith-Barry	Post Obil . . .	Jersey	875	72	46 4	2 2½	21'29	37'95	3rd Prize

The Gold, Silver, and Bronze Medals (limited to Jersey cows), given by the English Jersey Cattle Society, were awarded as follows:—

Gold Medal . . .	The Marquis of Winchester's "Wench"	Jersey.
Silver Medal . . .	Mr. J. H. Smith Barry's "Marigold"	Jersey.
Bronze Medal . . .	Mr. J. de Knoop's "China Belle 2nd"	Jersey.

Nineteen animals out of the twenty-six tested received prizes or commended cards, showing in this respect an improvement over last year's records at Lincoln.

TABLE IX.—Averages of Cattle Tested.

No. of cows competing	Breed	Live weight	Days in milk	Milk	Butter	Ratio	Points
		Lb.		Lb. oz.	Lb. oz.	Lb.	
3	Shorthorns	1386	92	64 11 $\frac{1}{3}$	2 9 $\frac{1}{2}$	24.94	46.76
3	Lincoln, Red do.	1477	83	44 8	1 15 $\frac{1}{2}$	22.30	36.85
3	South Devons	1617	64	48 15 $\frac{1}{3}$	1 10 $\frac{1}{2}$	29.10	29.38
1	Ayrshires	1029	132	54 4	1 14 $\frac{1}{2}$	28.69	39.45
15	Jerseys	851	91	37 8 $\frac{2}{3}$	1 14 $\frac{1}{2}$	19.69	35.61
1	Guernseys	1099	135	35 12	1 12 $\frac{3}{4}$	19.89	38.25

TABLE X.—Average points won by Cattle at Derby, Lincoln, and Newcastle, with the numbers competing at the three Shows.

Breed	Derby, 1906		Lincoln, 1907		Newcastle, 1908	
	No. of Cows	Points	No. of Cows	Points	No. of Cows	Points
Shorthorns	2	37.77	4	31.70	3	46.76
Lincolnshire Red Short-horns	2	38.45	8	31.06	3	36.85
South Devons	2	41.40	2	37.75	3	29.38
Red Polled	—	—	1	31.65	—	—
Ayrshires	—	—	—	—	1	39.45
Longhorns	—	—	1	33.35	—	—
Jerseys	17	37.95	14	36.61	15	35.61
Guernseys	2	29.25	4	33.45	1	38.25

III.—EXPERIMENTS IN THE DAIRY.

EXPERIMENT NO. 1.

The effect of Pasteurising milk for butter making.

Two lots of milk from the Shorthorn and Jersey breeds were selected for this experiment. These were each subdivided into three portions, making six lots in all, and were treated in the following manner :—

One portion of each breed's milk was heated to 160° F., and then reduced to 100° F., when it was separated.

The creams obtained were cooled to 40° F., and subsequently heated up to 60° F. when a starter—a pure lactic acid ferment supplied by the Midland Dairy College—was added to each lot.

The second portions of each were heated to 100° F. and then separated, the creams being cooled to 40° F., reheated to 60° F., and ripened with the same starter as the last lots. The third portions of each were similarly heated to 100° F., the cream being left to cool down and ripen naturally. All six lots:

of cream were then left until they were ready for churning, when they were all alike cooled to 54° F. and churned.

The butters were subsequently judged for colour, texture, and flavour.

Shorthorn.—There was little, if any, difference between the butters made from the two lots which were not Pasteurised, colour, texture, and flavour being in both fairly good. In the portion that was Pasteurised and ripened, the result was not satisfactory. In colour and texture the butter was inferior, although in flavour it was the same as the others.

Jerseys.—There was little, if any, difference at all between all these butters.

It must be noted that the samples of milk were very good, which will account for the flavour in every case being good, so that the starter had not the opportunity of demonstrating the effect it might have had in improving the quality of the butter had the milk been of bad flavour.

The Pasteurising of the Shorthorn milk appeared to affect the colour and texture of the butter disadvantageously. In the case of the Jersey milk no such result was seen.

EXPERIMENT NO. 2.

The effect of ripening Cream with good and bad starters.

Two lots of cream taken from the bulk of some excellent Channel Island cream were used for this experiment.

The first lot was ripened with a pure lactic acid ferment, the second with a lactic ferment which had become contaminated.

Both ferments were gratuitously supplied by Professor Blackshaw, of the Midland Dairy College, for the purpose of the experiment.

The creams were treated alike, the churning, drying of the butters, and making up being as nearly as possible identical.

The butter made from the sample ripened with the pure ferment was excellent in every way; that ripened with the contaminated ferment, although in appearance, texture, and colour as good as the other, had a most unpleasant smell and was nasty to the taste.

This experiment, it is submitted, demonstrates the care necessary to be taken where a starter is used to see that it is pure and free from contamination, and this applies equally whether the starter, as in many cases, is butter-milk of a previous churning, or a lactic acid ferment specially manufactured.

The experiment further shows the necessity for keeping cream in such a way that it may not be exposed to the risk of contamination from outside sources.

EXPERIMENT NO. 3.

Colouring of Milk.

At the Lincoln Show experiments in colouring milks were carried out with "the object of demonstrating that the public are taken in by the colouring of milk, a practice allowed by the Legislature so long as the colouring matter is not injurious to health" (*vide* report R.A.S.E. Journal, Vol. 68, page 150.)

At Lincoln four lots of new milk were selected for the experiments, while at Newcastle two lots of new milk only were used, the other two samples being separated milks, as I felt that if the public could be taken in by the colouring of separated milk the practice of colouring could be denounced more strongly than before.

Four bottles were filled with milk as below :—

No. 1 with Jersey milk.

No. 2 with white milk from another breed.

No. 3 separated milk coloured to be deeper than the Jersey.

No. 4 separated milk without any colouring matter.

I adopted the same methods as at Lincoln to obtain the opinions of the audience on three days during the show with the following results.

On every occasion the coloured separated milk obtained the most votes, the Jersey came next, while the uncoloured separated milk received no votes at all, showing that while the public could discriminate between separated and new milk, so long as no colouring material was employed, they were unable to distinguish between the coloured separated milk and genuine milk of the best quality.

On each occasion I warned the audience against buying milk without obtaining a guarantee that the milk was not coloured, just as I had done at Lincoln last year.

This experiment I submit shows conclusively that the colouring of milk cannot be too strongly condemned and that it is important, now that the question of good milk for the populations in our large towns is receiving so much attention, that steps should be taken either to put a stop to what, in my opinion, is a most reprehensible practice, or to compel the vendor to disclose to the purchaser, in every case where colouring is resorted to, the fact that the milk is coloured.

EXPERIMENT NO. 4.

Wensleydale Cheese.

Twelve gallons of milk from each of the following breeds of cattle were obtained for making cheeses of this variety,

Shorthorn, Red Polls, Jersey, Guernsey, and Kerry, the object being to see (a) whether the richer milks from the Channel Island cattle were suitable for making this class of cheese, (b) whether the prime cost of making the cheeses would be the same in each case, and (c) whether the milks from the other three breeds, which more nearly resemble the milk used in the Wensleydale district were not the best for the purpose, taking into consideration the high position the Wensleydale cheeses hold in the market.

The five lots of milk, which were kept separate and used within two hours of their being brought to the dairy, were all treated in the following manner.

From $\frac{1}{2}$ to 1 pint of a starter (lactic acid ferment) was mixed with each lot of milk ten minutes before renneting. One dram of rennet was added to every 4 gallons of milk at a temperature of 85° F.

The milks were stirred to keep the cream from rising for about fifteen minutes after renneting, when coagulation commenced. They were then covered up and left for about an hour to an hour and a quarter to set, then cut with American curd knives into cubes and allowed to pitch for ten minutes for the curd to firm slightly, when they were stirred for twenty minutes, then covered again and left for the further period of an hour.

The whey was next drawn off and the curd lifted into cloths to drain. It was then cut every twenty minutes while the acidity was developing, which varied from three to four hours.

The curds were all tested for acidity by the "hot iron" test, which, although not the most accurate method, is in general use amongst cheese makers.

The curds were then weighed, broken and salted, one ounce of salt being added to every 4 lb. of curd and put into the cheese mould without a cloth and allowed to settle, after which they were turned into cloths and put into the press with slight pressure, being turned once every twenty-four hours until a nice smooth coat was formed, when they were removed into moulds and bandaged.

The cheeses were subsequently packed, and by the kind permission of Mr. Rowntree were sent to his dairy at Kirby-Overblow, so that Miss Sykes, who made the cheeses, might look after them until they were fit for sale.

They were kept all alike at a temperature varying from 55° to 60° F. and turned very frequently. They did not all ripen evenly, the milk being so different in quality, the amount of acidity developed in the curd before salting evidently not being uniform in each case.

The following Table gives the quantity of milk used, the weights of curd before salting, after bandaging, when ripe, and the loss since making.

TABLE XI.

Breed.	Milk. Gallons	Weight of Curd.							
		Before salting.		When bandaged.		When ripe.		Loss in making.	
		Lb.	oz.	Lb.	oz.	Lb.	oz.	Lb.	oz.
Shorthorn	12	15	4	12	4	9	4	3	0
Red Poll	12	16	0	14	2	10	0	4	2
Jersey	12	18	4	15	8	12	4	3	4
Guernsey	12	17	8	15	4	11	0	4	4
Kerry	12	16	0	15	0	11	0	4	0

It will be noticed that the Jersey milk made the greatest weight of cheese and the Shorthorn the least.

The cheeses were kept at Mr. Rowntree's dairy until September 30, when they were sent off to the Society's offices at 16 Bedford Square.

Miss Sykes's report on the cheeses is as follows ;—

"The cheeses have not ripened evenly, but that could hardly be expected from such different milks, and I do not think the results should be taken as conclusive, since the amount of acid developed in the curd before salting was evidently not uniform in each case, there being no accurate means of testing the same, and on this acid the ripening largely depends. According to my judgment the Kerry milk has produced a cheese showing the most typical points of a true Wensleydale, one being the colour of the curd, which is white, while in the cases of the Jersey and Guernsey it is yellow. The Kerry has also ripened quickly and is now (September 30) blue and ready for use, whilst the Jersey, Guernsey and Shorthorn have developed more slowly and will be much improved by keeping for another six or eight weeks in a temperature of about 60° to 65° F. The Red Poll cheese is not sufficiently cured and shows signs of decay, owing in my opinion to there being not enough acidity developed in the curd at the time of salting. The Guernsey shows every sign of becoming an excellent cheese, but the Jersey and Shorthorn cheeses are rather dry, owing in my belief to there being too much acid in the curd."

On arrival at Bedford Square the cheeses were put in a dry cellar at a temperature of from 60° to 65° F. and were turned occasionally.

They were subsequently tasted and judged by Miss Jenkins and Miss Kirke, two of the head assistants in the Dairy at the Newcastle Show, and Dairy Instructresses respectively under the Staffordshire and Wiltshire County Councils.

They placed the cheeses in the following order :—

1st.—Guernsey. Good Wensleydale flavour, but too deep in colour.

2nd.—Jersey. Not a typical Wensleydale, a little too acid and too deep in colour but otherwise fairly good.

3rd.—Kerry. Rather better than the Shorthorn, but not so good as the Jersey.

4th.—Shorthorn. Poor in flavour, rather dry.

5th.—Red Poll. Not good ; gone off too quickly.

The practical lessons derived from the experiments may be summed up as follows :—

1. The milks richer in fat appear to make better cheeses than those containing less fat, the order in which the cheeses were placed when tasted demonstrating this. At the same time the colour of the richer cheeses is deeper than the accepted colour of a Wensleydale, accounted for by the fact that the cattle of that district are of the Dairy Shorthorn type. Whether the colour of a cheese should override the quality is more a matter for the consumer than for any one else.

2. Assuming the milks to be of equal value the cost of making Wensleydale cheeses from the richer milks was less than from the poorer milks and conversely the profit on the cheeses made from the richer milks would be more than the difference in weight discloses, because in addition to the excess in weight the higher price obtainable for a better quality cheese must be taken into consideration.

3. The use of an acidimeter is always advisable, the hot iron test not being sufficiently reliable in an experiment of this sort, where different qualities of milk are used.

To carry out work of this description involves a good deal of care, both at the time of making the cheeses and subsequently, and I feel it only right to point out that to Miss Sykes' interest and attention throughout, the success of the experiment, if any, is due. To her and to Mr. Rowntree for allowing the cheeses to be kept at his Dairy, the thanks of the Society are due.

I would also gratefully acknowledge my indebtedness to my Assistant Steward, the Hon. John R. de C. Boscawen, and to Mr. Gilbert and the whole staff of the Dairy.

ERNEST MATHEWS.

Little Shardeloes,
Amersham.

AGRICULTURAL EDUCATION EXHIBITION.

THIS Section, now one of the regular features of the Society's Show, was once again supervised by Mr. J. Bowen-Jones, who has so often before acted as Steward.

Education Section.—The first position in the catalogue is held by the Armstrong College, Newcastle-on-Tyne, a college of the University of Durham. This, the local institution for higher agricultural education, was practically the sole representative of the Colleges, as the only other one that put in an appearance gave as its whole display a few photographic pictures.

The Armstrong College, however, took full advantage of its geographical position to give visitors to Newcastle every opportunity for studying the work it is carrying on. If anything, the space allotted was rather overcrowded and many of the exhibits seemed to get in each other's way although the area allowed this exhibit was considerable.

Under the heading 1 (*a*) in their catalogue may be read the following :—"Geological Maps (Drift Edition ; scale one inch to one mile) of the four northern counties. . . . These maps . . . are the *best sources for information*¹ as to the varying characteristics of the soils of the four northern counties."

It is perhaps permissible to question the use of the superlative in connection with a map on which a line one inch in length may reasonably be expected to cut across five fields of twenty acres each. Considering how very little information a farmer could possibly derive from such maps it seems advisable to replace the adjective "best" by the word "only." A very fine display of these maps on the walls added to the regret that their small scale so limited their usefulness. It was, however, pleasing to note that, when the College authorities themselves wanted to bring out some geological features bearing on their own work they displayed a map on the twenty-five inch to a mile scale. This contrast only made the desire for the long-hoped-for six-inch Ordnance Survey Maps all the greater.

The value of some very excellent coloured illustrations of diseases in plants was rather diminished by the absence of any labelling likely to be of use to farmers. It is to be hoped that, in the future, all agricultural exhibitions will scrupulously avoid anything that may in any way tend to mystify those who have not had the advantage of a complete college training. Farmers who visit such educational displays—and their

¹ The italics are ours.

number grows greater every year—are very emphatic in their demands that more attention should be paid to “with Practice,” and this notwithstanding that they may be getting more and more ready to admit the application of “Science” to their everyday lives.

It is much to be regretted that the many good exhibits which, after arduous and self-sacrificing labour, the “Newcastle Agricultural” Staff placed before the public, have, owing to considerations of space, to be left with no more notice than the following brief extract from the catalogue affords.

Agriculture.—Sections and examples of turf from many localities showing the action of manures on the soil itself as well as the effect of different manurings on the herbage. Thirty-five slides showing examples of weed seeds apt to be found as impurities in commercial samples of seed corn, &c. Specimens of, with notes on, the great development of Lucerne root. Varieties of barley and oats. Pot culture experiments, &c., &c. *Chemistry.*—Poisonous impurities apt to get into farm foods. Pure and impure copper and iron sulphates. Variations in the feeding value of different swedes and turnips displayed diagrammatically. And various chemical phenomena. *Dairy.*—Diagrams from the Durham County Station at Offerton. Colostrum and milk impurities, preservatives and variations. Rations for milch cows. Also other exhibits including some showing the visible effects of bacterial work on various dairy products. *Botany.*—Fungoid and bacterial diseases of plants were shown in innumerable stages. Potatoes, cereals, &c., suffering from many of the ills that farm produce is heir to were on view. Among them were to be noticed some very extraordinary malformations of turnip bulbs. *Zoology.*—This section included specimens of parasites affecting farm stock. *Injurious Insects*, *Tuberculous Udders*, and the *Skeletology* of the Horse in health and disease.

These and many other interesting items had been got together by Professors Gilchrist and Potter, Messrs. Walker, Meek, Collins, Drummond, Gray, and Laurence (of the Cumberland and Westmorland Farm School). These gentlemen were assisted in their indefatigable efforts to instruct the crowds who visited the eight bays of which their exhibit consisted, by students from the College.

The County Council's Association.—(Education Committee of Cumberland, Durham, Newcastle-on-Tyne, Northumberland, and Westmorland).—The wonderful display of specimens of work done by children who are nowadays being encouraged, through their school work, to take an interest in rural life, must be most gratifying to those who have urged attention to Nature study, school gardens, &c., upon the educationalists. It is hard to believe, when one looks at the exhibits, that so great a result can have been achieved in so short a time as is the case.

The great number of the exhibits prohibits detailed comment, and with the majority so good the exceptions alone can be touched upon. Among these we would mention instances where the work exhibited showed that teachers had

allowed their pupils to confuse the conventional ornamentation, say of a wall paper, with the things to be seen illustrating "Nature's wonderful book."

Furthermore, while we suppose that it is impossible to altogether substitute drawing from life for the copying of pictures, even in the case of such familiar country objects as farm live stock, we would nevertheless urge the necessity of a little skilled selection in the models. Some of the pictures produced by the children were very faithful reproductions of well-known models of animals, some of whose points could only have been put on paper owing to the original artist having no technical knowledge whatever.

Again we very much doubt whether the bottling and labelling of manures can be of any educational value to the youngsters. But whether this be so or not, anyhow, it is essential that the authorities should not let boys put up powders of which neither they nor any expert knows anything definite. "Turnips Manure," "Wheat Fertilizers," are labels which we had hoped would never have been used to prostitute a study which is known by the name of "Nature."

The number of schools exhibiting was as follows:—Elementary, seventy-one; secondary, three; and industrial, two.

Having noted above the one or two blemishes that were discovered, we may conclude by saying that the number and variety of the exhibits show the very great interest taken in the subject by the School authorities, and reflect great credit on the teachers.

Royal Agricultural Society of England.—The value of the Society's Educational exhibit, if one can judge by the number of visitors to their bay, grows greater every year. Mr. Freear, who is always present to personally explain the exhibit, was at times literally besieged at Newcastle. His work on these occasions bears ample fruit however, for year by year, visitors to the Show (many of them members of the Society) return not only to hear his explanations of the exhibit, but to ask advice, and to discuss with him questions that have arisen on their own particular farms.

The arrangements this year were particularly indicative of the fact that Dr. Voelcker, Mr. Carruthers (the Consulting Botanist), and the other scientific advisers of the Society, realise that the sure way to reach the farmer, with such very special knowledge, is to be thorough, for only three main items were treated upon in detail, but so skilfully and minutely were they illustrated that it would seem difficult to believe that any reasonable man could fail to understand the very important exhibits, illustrating matters as important as they were in some cases intricate.

The complexity of the details in these exhibits showed the amount of research work necessary to properly elucidate them. In a set of four large pots containing soil, poor in lime, to which magnesium oxide had been added in varying proportions, wheat plants were growing. An examination of plants growing in the natural soil showed a longer straw than those in soil to which magnesium had been added, and the grain from similar plants grown the previous year, is of a decidedly starchy character. It was remarkable to trace how the influence of small additions of magnesium oxide completely altered the character of the plant, as well as the type of grain. The straw became shorter, but stouter, with each addition, while the flag became darker in colour, showing greater carbon assimilation. The grain altered from the white starchy variety so often seen on our markets, to a very much harder and more glutinous type; but the development of an immense amount of fibrous root, which increased up to a point with the amount of magnesia added, was one of the most interesting and instructive things in the exhibition.

The section dealing with the soil investigations was one that appealed to the practical man strongly. It was desired to show how necessary good cultivations were for the maintenance of a proper degree of water saturation during dry weather. Specimen soil particles were shown, obtained from a sandy loam in one case and a piece of Oxford clay in the other, together with tubes of soil, standing in water, illustrating their respective powers to lift water from the subsoil. These, together with diagrams and Mr. Freear's explanation, were the means, we feel sure, of helping many to grasp the reasons governing a "good tilth." Also to show those who depend on an extra hundredweight of artificial manure to do the work of men and implements, how fallacious and disappointing must be the results.

The dodder exhibit sent by the Botanical department was essentially practical and instructive. There is a common idea that the dodder plant will only grow on the clovers, but here was shown the European dodder growing on seedling red clover, and Chilian dodder growing on white clover, Lucerne rye-grass, and kohl rabi. Specimens of dodder seed obtained from European and Chilian clover were shown, and it was easy to see from the size of the Chilian seed how exceedingly difficult it is to clean clover seed contaminated with this weed.

Another interesting exhibit sent by this department of the Society, was a large diagram illustrating "The life of farm seeds." Collections of weed seeds, diagrams illustrating the life of the wheat plant; photographs and charts showing the average yields of wheat and barley in the continuous corn

growing experiments, together with a cropping plan of the Woburn farm for 1908, all helped to make one of the most educational exhibits the Society has ever placed before its members and the public.

Royal Meteorological Society, 70 Victoria Street, Westminster.—An interesting exhibit was arranged to illustrate the work which the Royal Meteorological Society is carrying on for the diffusion of a knowledge of the science of Meteorology. This included a large number of diagrams, relating to rainfall, temperature, sunshine, the influence of weather on crops, health, &c., and also a very fine collection of photographs illustrating meteorological phenomena. Various patterns of self-recording and other meteorological instruments were shown, and as several of these were at work, visitors to the Show had an opportunity of noticing the weather changes that were taking place.

The methods adopted for obtaining information on the meteorological conditions prevailing in the upper atmosphere were fully illustrated. A large kite, with a meteorograph, and also a *ballon-sonde*, carrying a smaller meteorograph, were suspended from the roof of the building. The results obtained by Mr. Dines from the ascents made at Pyrton Hill, Oxfordshire, January to June, 1908, were given in a diagrammatic form, and these showed that there is a generally uniform decrease of temperature up to the height of about seven miles above the earth's surface, and that above that height there is no further decrease, but often an increase of temperature.

A diagram of the yearly rainfall at Newcastle-on-Tyne for the forty years 1868-1907 illustrated the fallacy of taking too short a period on which to base a true local average of rainfall. The yearly amounts were as follows :—

Year	Rain	Year	Rain	Year	Rain	Year	Rain
	Ins.		Ins.		Ins.		Ins.
1868 ...	24·51	1878 ...	33·54	1888 ...	28·23	1898 ...	22·19
1869 ...	24·78	1879 ...	28·29	1889 ...	25·07	1899 ...	25·57
1870 ...	25·10	1880 ...	29·18	1890 ...	23·37	1900 ...	38·88
1871 ...	26·16	1881 ...	33·40	1891 ...	28·57	1901 ...	26·36
1872 ...	41·49	1882 ...	30·08	1892 ...	28·07	1902 ...	21·98
1873 ...	20·35	1883 ...	29·43	1893 ...	20·65	1903 ...	34·46
1874 ...	24·82	1884 ...	22·34	1894 ...	24·33	1904 ...	23·34
1875 ...	32·93	1885 ...	25·29	1895 ...	30·16	1905 ...	21·49
1876 ...	31·47	1886 ...	33·08	1896 ...	26·91	1906 ...	30·19
1877 ...	37·71	1887 ...	22·81	1897 ...	24·18	1907 ...	27·33
Average 20 years ... 28·84.				Average 20 years ... 26·82.			
Average 40 years ... 27·83 ins.							

The average for the whole period of forty years above shown is 27·83 ins. The values above this average are printed in thick type, and those below in ordinary type.

Dr. H. R. Mill, the Director of the British Rainfall Organisation, contributed some specially prepared maps showing (1) the average annual rainfall of the North of England and the South of Scotland ; and (2) the heavy rainfall of October 8, 1903, over the North of England, when more than three inches fell along the coast of Northumberland and Durham.

In a railed-off enclosure in the ground adjoining the Agricultural Education Pavilion, a fully equipped Climatological Station was arranged, with the various instruments in position, and readings were taken hourly during the Show. These observations, together with the weather charts for 7 a.m. and 6 p.m., and the special telegram from the Meteorological Office, giving the forecast of the day, were posted up in the Pavilion for general information. Addresses were given each day by Mr. W. Marriott.

REPORT ON THE FORESTRY EXHIBITION AT NEWCASTLE.

THE Forestry Exhibits generally were of considerable interest to both professional foresters and the ordinary visitor. In the competitive classes the entries were, with one or two exceptions, few in number, but the quality of the exhibits was of a very high order. The planks and boards cut from the ordinary forest trees were exceptionally fine, both as regards size and quality, and in Class 2 the whole of the seven entries left little to be desired in the way of quality as far as larch and Scots pine were concerned.

The classes for exhibits of an educational character, such as specimens of good and bad pruning and thinning, insect pests, and diseases of trees, were filled by extremely good and instructive entries, the chief exhibitors being the Duke of Northumberland, K.G., and the Earl of Yarborough.

The entries of field gates were nine in number, and included several very cheap and well-made gates suitable for farm and estate use. For hunting gates the Duke of Northumberland was awarded the silver medal for a cheap, well-made gate, fitted with a patent fastening which attracted much attention. Creosoted fencing, gates, tree guards, &c., were shown by Earl Fitzwilliam and the Earl of Yarborough. The exhibit of the former comprised almost every article capable of being manufactured from home-grown coniferous wood, while the latter showed specimen lengths of park fencing of both wood, and wood and wire combined. This latter fence consisted of ten lines of No. 8 wire, the lower

ones being strengthened by two of Messrs. Main & Co.'s "Springbok" droppers, a good invention for keeping the fence rigid and in proper shape.

Awards were made in all classes, and reserve numbers given in most.

The non-competitive exhibits were, taken as a whole, of greater interest than those in the competitive classes. The Armstrong College (per Mr. J. F. Annand), the Duke of Northumberland, and the Earl of Yarborough had exhibits of exceptional interest, while others worthy of special notice came from Earl Fitzwilliam, Professor M. C. Potter, Mr. John Patten, jun., &c. The Armstrong College exhibited botanical specimens of forest trees, insect pests, and sections of foreign and home-grown timbers of various kinds, together with photographs of demonstration and simple plots. The Duke of Northumberland had a highly instructive and novel plot laid out to illustrate the class of timber and condition of the surface soil in Scots pine plantations of four, twenty-five, fifty, seventy-five and one hundred years of age respectively, and also the condition of the surface of cleared ground after temporary grazing by sheep and cattle. Considerable trouble and skill were exercised in preparing this exhibit, which was of great educational value.

In Section 3 the Earl of Yarborough showed tables of results obtained by creosoting under pressure, photographs of well-grown plantations on the Brocklesby estate, &c., and in Section 4 the same exhibitor had a splendid collection of polished planks of eighty-three different species of home-grown woods, together with hand specimens of 171 species, all grown on the Brocklesby and Manby estates. The most noteworthy examples were scarlet and British oaks, silver fir, English maple, crack willow, cedar of Lebanon, lime, plane, Douglas fir, *Cryptomeria*, &c.

Professor Potter showed a fairly complete set of fructifications of fungus affecting timber, with specimens of their effect, and Mr. John Patten, jun., exhibited a set of dried flowers and fruit of forest trees carefully mounted.

Other exhibits of interest were the plots of trees and shrubs exhibited by Messrs. Little and Ballantyne and Joseph Robson and Sons, the last named having an instructive series of groups illustrating the planting of different localities and exposures. Mr. C. J. Leyland had an interesting collection of conifers in pots.

Notes on Competitive Classes.

CLASS 1.—Four entries. All good, but varying in uniformity.

CLASS 2.—Seven entries. Spruce, chiefly knotty. Larch and Scots pine, very clean and good.

- CLASS 3.—Two entries. Both interesting collections of 11 and 14 specimens.
- CLASS 4.—Two entries. Lord Carnarvon's entry contained exceptionally good specimens of Weymouth pine and silver fir.
- CLASS 5.—Four entries. Mr. Gillanders' twelve cases of forest insects very carefully mounted and arranged.
- CLASS 6.—Two entries. Both instructive exhibits, but Earl Beauchamp's more complete.
- CLASS 7.—One entry. Fine set of specimens showing sound and diseased knots.
- CLASS 8.—Two entries. Both very good and instructive exhibits.
- CLASS 9.—One entry. Contained unique set of witches' brooms and burrs in twenty distinct species.
- CLASS 10.—Five entries. All good, well-made gates, but the one awarded silver medal alone combined cheapness, strength, and neatness of construction.
- CLASS 11.—Four entries. All serviceable gates, but except No. 38 of no particular merit.
- CLASS 12.—Five entries. No. 40 very cheap and fitted with patent catch of considerable merit. Others good but more expensive.
- CLASS 13.—Three entries. All good, but No. 45 'most' representative exhibit.

A. C. FORBES.

Department of Agriculture for Ireland,
4 Upper Merrion Street, Dublin.

FARM PRIZE COMPETITION, 1908.

THE several Classes for which prizes were offered by the Local Committee in connection with this year's show at Newcastle were as follows :—

CLASS I.—For the best-managed Arable and Grass Farm of 250 and not exceeding 600 acres. First Prize, 60*l*. Second Prize, 30*l*. Third Prize, 15*l*.

CLASS II.—For the best-managed Arable and Grass Farm of 50 and not exceeding 250 acres. First Prize, 35*l*. Second Prize, 25*l*. Third Prize, 10*l*.

CLASS III.—For the best-managed Dairy Farm of 50 acres and upwards. First Prize, 50*l*. Second Prize, 25*l*. Third Prize, 10*l*.

In addition to the above-mentioned prizes, Cups of the value of 15*l*. and 10*l*. were provided for the first prize winners in Classes I and 2 respectively, through the Local Committee, by Mr. W. J. Benson, of Fourstones, Northumberland. The same Farm could not be entered in more than one Class, but a competitor in Classes 1 and 2 might also enter a Dairy Farm in Class 3, if the said Farm comprised a separate holding. An entry fee of 1*l*. was charged to Members of the Royal, Northumberland, or Durham Agricultural Societies; to non-members of any of the above-named Societies the entrance fee was 2*l*.

The following entries were obtained :—

In Class I. 9 Farms.

In Class II. 8 Farms.

In Class III. 4 Farms.

The cost of adjudication was borne by the Royal Agricultural Society. As is customary in these competitions, the conditions of entry required that the tenants should be *bonâ fide* tenant farmers, paying rent for at least three-fourths of the land in their occupation, and that they should enter for competition all the land in their occupation in the Counties of Northumberland and Durham, always provided that such land had been in their tenure for at least two years. Mr. John Evens, of Burton, by Lincoln, and Mr. William Hindmarsh, of Newton House, Christon Bank, R.S.O., Northumberland, were appointed to judge all three classes; and the writer to act as Secretary.

The Judges were requested to take into consideration any special advantages which one competitor might possess over another, to withhold the prizes in the absence of sufficient merit, and especially to consider the following points:—(1) General management with a view to profit; (2) productiveness of crops; (3) quality and suitability of live stock, especially that bred upon the farm; (4) management of grass land; (5) state of gates, fences, roads, general neatness, and state of cottage or cottages so far as tenant is liable; (6) method of book-keeping followed (if any); (7) management of dairy and dairy produce if dairying is pursued; (8) the duration of tenancy.

The first visit was made between March 3 and 15, when all the farms entered were carefully inspected. The weather during the earlier part of the time was most unfavourable owing to snowstorms and rain, and the Judges had a good deal to contend with owing to the presence of snow; it was in some cases impossible to see all the land during this first visit, but the roots, stock, buildings, and general management were thoroughly looked into, and the Judges considered that it was necessary to re-visit the following farms only: In Class 1—Mr. George M. Angus, Matfen High House, Corbridge-on-Tyne; Mr. John W. Dryden, Dene House Farm, Seaham Harbour; Mr. George A. Harrison, Gainslaw Hill, Berwick-on-Tweed; Mr. James Ord, Cavil Head, Acklington; Mr. William A. Weightman, Hall Farm, Silksworth, Sunderland. In Class 2—Mr. Robert H. Dryden, Mill House Farm, New Seaham; Mr. John M. Hall, Middle Field House, Stockton-on-Tees; Mr. George Harrison, Gainford Hall, Gainford, Darlington; Mr. Fenwick Wilson, Marden, Whitley Bay. In Class 3—Mr. Robert J. Ebdon, West Farm, Fulwell; Mr. Malcolm Nicol, Elstob House, Silksworth Lane, Sunderland; and Mr. John Reay, East Brunton, Gosforth, Newcastle-on-Tyne.

The second tour of inspection began on June 8 and ended on June 13. It was conducted under most favourable

conditions, which admitted of every item of farm management being thoroughly investigated. After having carefully considered the various points which had come to their notice during the tours of inspection, the Judges made the following awards, which were announced at the General Meeting of Members held in the Showyard at Newcastle :—

CLASS I.—First Prize of 60*l.* and 15*l.* Cup to John W. Dryden. Second prize of 30*l.* to James Ord. Third Prize of 15*l.* to William A. Weightman.

CLASS II.—First Prize of 35*l.* and 10*l.* Cup to George Harrison. Second Prize of 25*l.* to Fenwick Wilson. Third Prize of 10*l.* to Robert H. Dryden. Very Highly Commended, John M. Hall.

CLASS III.—First Prize of 50*l.* to Malcolm Nicol. Second Prize of 25*l.* to John Reay. Third Prize of 10*l.* to Robert J. Ebdon.

It will have been observed that all the first prizes went to Durham, the seconds to Northumberland, and the thirds to Durham. It is probable that, in Class 1, the rule restricting the area of competing farms to 600 acres had a detrimental effect upon the true representation of Northumberland farming. The following table (taken from the Agricultural Returns for 1908) summarises the number of agricultural holdings of various sizes in the two counties, and the figures show clearly that large holdings preponderate in Northumberland :—

NUMBER OF AGRICULTURAL HOLDINGS.

	Northumberland	Durham
Above 1 and not exceeding 5 acres	902	1,176
" 5 " " 50 "	2,149	3,079
" 50 " " 300 "	1,989	2,331
" 300 acres	731	150
Total	5,771	6,736

It has been said that large estates and large farms are usually found associated, and perhaps it might be added that some of the best and most economical farming is found on these large farms where there is full scope for the proportionate reduction of labour, general expenditure, and economical management, particularly where sheep-farming is included, as is extensively the case in Northumberland. It is a significant fact, as showing the limitation of the present Competition, that the Judges visited seven farms before seeing a sheep. This report is necessarily limited to the farms winning the premier positions. The following figures show the difference between the areas under various crops in the Counties of Northumberland and Durham in 1888.

NORTHUMBERLAND.

Under the total of crops and grass there are in the county 10,514 acres less than were accounted for in 1888. There are

72,479 acres less arable, whereas the total area of grass land has increased by 61,965 acres during the period of twenty years.

All the corn crops have decreased in area as follows:—Wheat, 10,902 acres; barley, 6,726 acres; oats, 11,187 acres; rye, 101 acres; beans, 1,389 acres; peas, 1,331 acres; making a total decrease under corn of 31,636 acres. Potatoes have increased in area by 533 acres, mangolds by 349 acres, and cabbage, &c., by 329 acres. Turnips show a decrease of 10,093 acres; vetches, &c., 1,881 acres; clover, &c., 24,653 acres; and bare fallow, 6,047 acres. On the other hand, permanent grasses have increased to the extent of 61,965 acres. The total number of horses has decreased by 612, and pigs by 1,104. Cattle show an increase of 27,374, and sheep, 213,358.

DURHAM.

For the County of Durham the figures are:—Under the total of crops and grass, 1,375 acres less than in 1888. Of the corn crops, barley alone shows an increase in area, viz., 4,483 acres. Wheat has decreased by 14,615 acres, oats by 1,402 acres, rye by 60 acres, beans by 359 acres, peas by 958 acres. Potatoes have increased by 3,244 acres, mangolds by 532 acres, cabbage, &c., by 199 acres, whereas turnips have decreased by 2,576 acres. Vetches, &c., are lower by 2,366 acres; clover, &c., by 8,263 acres, and bare fallow by 7,570 acres.

Permanent grass is greater by 27,855 acres, and small fruit by 36 acres.

During the period of twenty years, the total of all classes of stock shows an increase of 3,814 horses, 14,489 cattle, 61,866 sheep, and 3,349 pigs.

CLASS I.—FIRST PRIZE FARM.

Occupied by Mr. J. W. Dryden, Dene House Farm, Seaham Harbour.

This farm consists of 250 acres, of which 200 are arable and 50 grass. It is held on a yearly tenancy under the Marquis of Londonderry, K.G., and has been occupied by the present tenant for seventeen years. The fields lie very conveniently and compactly, almost in the form of a triangle, but the general situation of the farm strikes one as being unusual. We have here a farm, no outside field of which is joined by any neighbouring farmer. It is bounded on the north by the Dene, in which is situated Seaham Hall (one of the residences of the Marquis of Londonderry), on the east by the sea, and on the south by the road which runs through the colliery town of Seaham Harbour. The farm is practically

within the town and the house most certainly is, being the end one of a row of very comfortable dwellings just off the main road. Mr. Dryden's holding is in the midst of a population of 10,000, and herein lies the commercial value of the farm, with the further advantage of good railway facilities owing to the presence of the collieries. The town of Seaham affords an immediate market for a very considerable amount of the farm produce, besides supplying a quantity of manure, &c. The close proximity of the town of Sunderland, with its population of 146,000 and excellent railway facilities, is also of great value to the local farming community. The soil generally may be described as a strong clay loam of a deep rich character; there are, however, a few acres on the gravel where the soil is lighter. The areas under various crops in 1908 were as follows:—Turnips, 30 acres; oats, 30 acres; potatoes, 50 acres; wheat, 30 acres; clover, 50 acres; tares and cabbage, 10 acres; total 200. The general system of cropping on the arable land is "green," followed by "white." A specimen rotation might be turnips, oats, clover, potatoes, wheat. Oats being taken after potatoes when there is not time to get wheat in.

Turnips.—The wheat stubble is ploughed deeply twice (once before Christmas and again early in the spring). The land is set up in drills into which are carted fifteen to twenty loads per acre of well-rotted farm-yard manure. In addition to this the land receives about 7 cwt. per acre of mixed turnip manure. The drills are then closed and the swede seed sown on the ridge at the rate of about 4 lb. per acre. The singling and second hoeing of the turnips are done by piece-work at the rate of 13s. per acre for the double operation; the final operations of pulling, topping and tailing, &c., are done by day-work. An average crop of swedes is about 40 tons per acre on this farm. The roots seen were good and the land thoroughly clean, and it had evidently been well cultivated.

Oats.—The oat crop comes after turnips and receives no special manuring, with the possible exception of a little top-dressing of nitrate of soda in the spring, if necessary. Mr. Dryden has a decided preference for the white short variety and changes the seed every two years. The oats are drilled at the rate of about one sack per acre. No hoeings are given to the oat crop, which is usually looked over for thistles and then left alone until harvest. Harvest operations are done by day-work. An average crop of oats for the district is 70 bushels per acre.

Potatoes.—*Following Oats.*—During the autumn, farm-yard manure is carted and spread upon the stubble at the rate of 20 to 25 tons to the acre, this being ploughed in before Christmas

if possible and subsequently cross-ploughed in February. The land is then set up in drills and receives 7 cwt. per acre of potato manure when the potatoes are being put in. The Up-to-date variety is the one most favoured here. The sets are obtained from Scotland and grown for two years, half of the potato land being planted with new seed each year. The crop is taken up by a potato digger, and averages 10 tons per acre. There is a ready market for any seed potatoes there may be to spare and an excellent local market for the "ware," practically all of which can be disposed of at retail prices.

When the potatoes follow a clover crop their treatment is similar, the manure being carted on the clover ley. Should there be any land for potatoes that could not be manured and ploughed in the autumn or winter as usual, it is manured direct into the drills in springtime with 20 to 25 tons per acre of well-rotted pit dung, and does not generally receive anything further unless the ground is considered to be cold or low in condition, in which case some special potato manure is added.

Wheat follows the potatoes and is sown in the autumn ; the Square Head's Master variety is drilled at the rate of 8 pecks to the acre. For spring sowing White Chaff White at 10 pecks per acre is used. New seed is obtained every second year. It is expected that the land will be left clean and in good heart after the potatoes, therefore no special manure is given nor is it considered necessary to hoe the wheat crop, which is usually only looked over for thistles, &c. The wheat crops were good and clean.

Clover, &c.—The seeds are sown under a white crop and the mixture used consists of 6 lb. English Red Clover, 1 lb. Alsike, 2 lb. Cow Grass, and $1\frac{1}{2}$ pecks Italian Rye Grass per acre. This lies for one year only and is all hayed twice within the season, with the exception of such portions of the second crop as are cut green for the cows. A top-dressing of $1\frac{1}{2}$ cwt. per acre of nitrate of soda is given to the seeds in the spring.

Should it for any reason be desirable or necessary to leave the seeds down for a second year, they are then manured with farm-yard manure in the autumn and possibly top-dressed in the spring. The seed crops were excellent, showing great bulk and wonderful growth.

Grass Land.—This consists of 12 acres of old meadow and 38 acres of pasture. Each year one half of the 12 acres of meadow is manured in the autumn with 10 tons per acre of well-rotted manure which has been made by the cows and horses during the summer. The 38 acres of pasture land receive every third year 10 cwt. per acre of basic slag, and show great improvement.

Stock.—The stock on the farm at the time of the first visit consisted of—

Horses		Cattle	Sheep
12	Working Horses.	47 Cows.	70 Hogs.
3	" Ponies.	3 Yearling Heifers.	
		10 Calves and 1 Bull.	

The horses were of the Clydesdale type—a splendid lot and in the pink of condition. They are all bought at about four years old, worked and sold at six years old to go into towns for Corporation work. Mr. Dryden is gifted with an eye for a horse, and his judgment is well known, so that he has no difficulty in finding a ready sale. A good deal of contracting work is done, which accounts for there being so many horses on the farm. The appearance of the horses when paraded in the farm-yard and when seen at work in the fields was a most pleasing sight, and reflected the greatest credit both on the master and the men. The care taken of both horse and harness was very evident, and the pride which each man took in his pair and their appearance was a pleasure to see. The Hackney ponies are used for the milk floats and general jobs about the farm. The horses and ponies lie out at grass all night during the summer.

Dairying.—This is carried on to a considerable extent. There are forty-seven non-pedigree dairy cows which are bought in, milked through, and then fattened off, except a few of the best. They are in good condition and well looked after.

Cattle.—The cows are turned out to grass in the daytime during the summer months and brought in at night. They are allowed as much tares and green clover as they care to take, with about 10 lb. per head per day of cake and meal mixed with brewers' grains. They are milked at 5 a.m. and fed with mash while being milked, turned out at about 6.15 and receive green food in the field, coming in at 12 noon. They are fed with mash, &c., before the second milking, which commences at 12.45 p.m. At 2 p.m. they go out again, and at 6 p.m. they come in for the night and receive tares and clover. Any newly calved cows are milked a third time at 6 p.m., and the milk disposed of immediately. During winter the feed is somewhat similar, but swedes take the place of the green stuffs at the rate of about two stones per cow, given at 7 a.m., and again at 4 p.m. Hay is given at 6 a.m., 2 p.m., and 7 p.m. Mr. Dryden has a very good milk trade in the town of Seaham, and is more often than not in the happy position of having more customers than he can supply.

Sheep.—This is not a sheep farm, but there being a good market locally for mutton, Mr. Dryden runs a flying flock of about 100 sheep, which he buys in as lambs and sells off as

fat hogs. The lambs are first put on to the clover fog and allowed a little Bombay cotton cake; afterwards they go on to the grass land to finish, and receive as many roots as they can clean up and an increased quantity of a mixture of Bombay cotton cake, a local feed cake, and crushed oats. Mr. Dryden thus contrives to supply a local demand and incidentally improve his grass land.

Labour.—In this district wages run at about 22s. per week. Mr. Dryden employs one foreman at 24s. per week with house and 80 stones of potatoes per annum; foreman's two sons at 24s. each per week; one spade hind at 21s. per week, with house and 60 stones of potatoes; one byreman at 21s. per week, with house and 60 stones of potatoes; five men at 22s. per week and no perquisites; three Irishmen (May to December) at 24s. per week, and from ten to twenty women at 1s. 3d. to 1s. 6d. per day according to requirements. The women are mainly employed in sorting turnips and potatoes, but are not expected to work in stormy or wet weather.

Buildings.—The buildings and cottages are maintained by the landlord, who also provides the gates and attends to repairs. The buildings are poor, old-fashioned, and inconvenient, and would probably have been renewed long ago but for their position. Being now surrounded by houses, it is most likely that they will have to be pulled down and new buildings erected on a site more remote from the township.

Implements.—The farm was suitably equipped with good implements, which were well looked after.

Fences, ditches, and occupation roads are maintained by the tenant, and were in a satisfactory condition. Drainage requires attention in places.

Book-keeping.—An excellent system of accounts is in use. The main sources of income are potatoes, dairying, and horses. Excellent potatoes are grown on the farm, and the produce is sold close at home at prices which would gladden the heart of a Covent Garden salesman. Milk sells readily at a good price, and as the hour for retailing approaches numbers of women and children are seen waiting with their pence and pitchers. Good geldings bought at four years old, worked and sold at six, sell well for town and Corporation work. Perhaps the great secret of success is the business capacity generally displayed to meet all opportunities for successful trading, no item escaping Mr. Dryden's attention. That there are exceptional opportunities surrounding the Dene House Farm no one will deny. Quantities of turnips can be sold at the door at one halfpenny each, and at 1s. 9d. to 2s. per cwt.; cabbages and other vegetables also finding a good market. Carting and Corporation work have already been alluded to. The farming

was characterised by thoroughly good cultivations, clean land, and excellent crops. The general management was good, the land being maintained in a high state of fertility.

It is a matter of great difficulty to compare a farm such as Dene House, with its deep rich soil and exceptional position and facilities, with farms having none of these advantages—the Judges having to decide which tenant is making the most of his land and of the surroundings in which he finds himself. In no case did the Judges see land so well cultivated or carrying such clean and good crops all round as at Dene House Farm. As to the thorough adaptation to circumstances, there was equally no doubt.

They therefore had no hesitation in awarding to Mr. J. W. Dryden the First Prize of 60*l.* and Cup in Class I.

NOTE.—The Judges desire to say how deeply they regret to have since heard of the death of Mrs. Dryden, and to express their sincere sympathy with Mr. Dryden and his family in their great bereavement.

CLASS I.—SECOND PRIZE FARM.

Occupied by Mr. James Ord, Cavil Head, Acklington.

This farm consists of 423 acres, of which 208 are arable and 215 grass. It is held on a yearly tenancy, under His Grace the Duke of Northumberland, K.G., and has been occupied by Mr. Ord for fifteen years.

The soil is of a loamy character, subsoil sand, and, in places, clay. The land is farmed on the four-course system, with “seeds” occasionally left down two or three years, the rotation being roots, barley, seeds, oats. Very little wheat is grown, but if any, it is taken after roots. The cropping in 1908 was as follows:—Turnips, 20 acres; swedes, 16 acres; potatoes, 2 acres; mangolds, 2 acres; barley, 30 acres; first year seeds, 42 acres; second year seed pasture, 24 acres; third year seed pasture, 23 acres; fourth year seed ley, 25 acres cut for cattle hay; oats, 23 acres; cabbage, 1 acre. Total, 208 acres.

Roots.—The roots consist of turnips, swedes, mangolds, and potatoes, and follow the oat crop. The oat stubble before being ploughed receives twenty-five loads per acre of over-year manure. If possible, the land is ploughed four times, and is then set up in ridges. If Mr. Ord has any suspicion of grub, he applies 5 to 6 cwt. per acre of kainit at the time of the autumn ploughing, and this is harrowed in. For the turnip crop there is applied to the drills either 5 cwt. superphosphate or 5 cwt. bone meal per acre; the superphosphate being applied to that portion which will subsequently come in (after the

barley crop) for grazing seeds, and the bone meal to that portion which is intended to come in for seeds hay. The turnips are horse-hoed or "scuffled," as it is termed, frequently, and the operation of singling and setting out is as a rule done by female labour on day work. Should Irish labour be employed, the price paid is 11s. per acre for setting out and hoeing once over. Women are paid 1s. 8d. per day. An average crop of turnips on this land will run from 25 to 30 tons per acre, and about two-thirds of the crop grown is fed on the land by sheep. The land coming in for mangolds and potatoes receives twenty-five loads of manure in the autumn at the time of ploughing, and a further dressing of ten loads per acre in the ridges in spring, as well as 5 cwt. of bone meal. The crop itself is top-dressed with sulphate of ammonia at $\frac{3}{4}$ cwt. per acre, which is scuffled in some four to five weeks after the mangold and swede plants have been set out. All the operations on the mangold crop are done by day work, and an average crop for this district is 30 tons per acre. The land for the potato crop receives the same treatment as that for the mangolds, excepting the substitution of 5 cwt. of potato manure for bone meal, and no top-dressings are applied.

Barley.—This follows the root crop, and is not specially manured, nor are any hoeings given, as the land is left clean after roots. The "Standwell" variety is the one most favoured; this is drilled at 10 pecks per acre, and yields from ten to twelve sacks per acre of good quality barley.

Seeds.—If sown for hay, the seed mixture consists of 5 lb. red clover, 3 lb. cow grass, 2 lb. alsike, $\frac{1}{2}$ bushel Italian rye-grass, and $\frac{1}{4}$ bushel perennial rye-grass. If for pasture for the sheep, the mixture consists of 11 to 13 lb. of hop trefoil, and 3 lb. white clover, with $\frac{1}{4}$ bushel Italian rye-grass added to give a little top grass. The "seeds" for hay stand for one year only as a rule, but should it be an exceptionally good plant, it may be allowed to lie for two or even three years, during which time it is pastured, Mr. Ord being of opinion that this resting of the land is distinctly beneficial to it, particularly as it is being grazed by sheep in the meantime. The pasture seeds, in the same way, may be left for two or three years. The seeds for hay sometimes receive a top-dressing of 4 cwt. of super-phosphate per acre during January or February.

Oats follow the seeds, and no manuring is necessary; no hoeings are given, and an average crop consists of fourteen sacks per acre, all of which is consumed on the farm. The arable land is ordinarily good, useful land, which will give a good return if well treated, but would soon lose condition if not looked after.

Grass Land.—The 44 acres of grass land near the house may be described as good grazing land, and are usually occupied by

Irish heifers receiving some 4 lb. of cake per head per day. They commence feeding in March or April, and are fattened off by July, August, or September. This land will also carry a few sheep at the same time. One hundred acres of grass on the other side of the railway is good land for store stock, and is grazed by bullocks and heifers, the bullocks being afterwards brought in during the autumn and fattened at the homestead, while the heifers are transferred to the better land. The flock of ewes also runs over this railway grass land. There are 50 acres of useful grazing land also in Mr. Ord's occupation at Whirley Shaws, about two miles from home, which are grazed by young stock. The grass land is well stocked, and is not specially manured.

Hay.—Ten acres of the old grass land are annually cut for hay, which goes to the sheep and cows. Twenty acres of the pasture seeds in the third or fourth year are cut for hay for the cattle. The one-year seeds hay is consumed by the horses, hardly any being sold. All the grass land has at different times been treated with basic slag, with very good results; kainit has also been tried, but no improvement was noticeable.

Manures.—All the straw is consumed at home, and in this way Mr. Ord makes a great quantity of farm-yard manure. In addition to this he spends about 150*l.* annually on artificial manures and lime. Once in every eight years Mr. Ord dresses the clover ley (which comes into oats) with lime. He uses both gas lime and ordinary lump lime, the former at the rate of five tons per acre, and the latter at six, a part of the clover ley being done each year. Very good results are obtained from the gas lime, which can be bought at 4*s.* per ton, delivered Acklington Station, which is quite close to the farm. In addition to the fact that all the oats and straw, and practically all the hay, are consumed at home, Mr. Ord purchases annually from 250*l.* to 300*l.* worth of cake and maize, and other feeding-stuffs.

Horses.—The horses consist of eight working horses, one two-year-old, and two ponies. Two brood mares of the Clydesdale breed are kept, and these are put to a Clydesdale or Shire stallion to produce good, useful cart-horses for the farm. Mr. Ord only professes to breed for his own farm purposes, but has occasionally sold a good one for town work. The horses lie out all the summer, and their corn consists of mixed oats and maize (all bruised) at the rate of 14 stones per week for each pair. They are brought in during the winter months, the feed being the same, only greater in quantity when work is hard.

Cattle.—The cattle are three Shorthorn cows, one Shorthorn bull, and four Jersey cows, with one Jersey bull for breeding purposes. The cows are allowed to rear their calves, only

sufficient dairying being done to supply the house and cottages. Mr. Ord usually feeds about sixty-five cattle in stalls in the winter, and during the summer fattens off from forty to forty-five on the grass, as well as running twenty store cattle. The winter stall-fed cattle consist of Blue-Greys (for which Mr. Ord has rather a preference) and Shorthorns. They are given as many roots and as much oat straw as they will consume, and receive in addition a mixture of linseed and cotton cake, which is gradually increased in quantity to 8 lb. per head per day. They also receive hay which has been cut from the third or fourth year pasture seeds.

Sheep.—A flock of twelve score of ewes is run on this farm. There are ten score of three-quarter-bred ewes *i.e.*, Cheviot ewe crossed by Border Leicester, and offspring again crossed by Border Leicester; and two score of pure Oxford Down ewes. The three-quarter-bred ewes are put to Oxford and Lincoln tups, and the produce all sold off fat. Part of the lambs are sold as fat lambs, the remainder being kept as stores and fed off upon the turnip land. These stores are first put upon the white turnips, then follow on to the swedes, receiving 1 lb. of mixed cake per head per day, made up of one part linseed cake, two parts cotton cake, and one part Waterloo compound cake; they also receive a little hay. The Oxford ewes are put to pure Oxford tups, and kept as a separate flock. The pure Oxford tup lambs are all sold at the Kelso and Acklington ram sales, the ewe lambs being retained to keep up the flock. All the ewes are discarded, as a rule, after their fourth crop of lambs, and either fattened off or sent to the York sales. After the lambs are weaned, the ewes are run on the grass land at Whirley Shaws and west side of railway until October, when they are put to the tups, at which time they begin to receive a little corn, which is gradually increased in quantity. About two months before lambing time they are run on to the turnip land and allowed to stay four or five hours each day on white turnips, receiving about $\frac{1}{2}$ lb. of mixed cake and oats per head per day. They are all brought home to the lambing yard to lamb, and receive turnips or mangold with cake and corn. When the lambs are about ten days old, ewes and lambs are taken to the seeds pastures, and then follow on to the grass land. The lambs are weaned at about fourteen weeks old, and are sent on to seed pasture which has been saved for them, and receive $\frac{1}{2}$ lb. of corn and cake per head; they then follow on to the clover fogs. The sheep are a very nice lot indeed, and apparently well looked after; on the occasion of the second visit the ewes were looking very fresh and well.

Outgoings.—The principal outgoing on this farm are: Rent, 23s. per acre; labour, 12s. 6d. per acre; artificial manures, 6s. per acre; and purchased foods, 14s. per acre.

The arable land was very well tilled and receiving great attention. The corn crops seen were quite good, and the swedes and mangolds looked very well indeed. There was evidence on all sides of all-round good commercial farming.

CLASS II.—FIRST PRIZE FARM.

Occupied by Mr. George Harrison, Gainford Hall, Gainford.

This farm is beautifully situated in the pleasant old village of Gainford, which lies eight miles west from Darlington, and eight miles east from Barnard Castle. Gainford Hall, now the farm-house, is at the west end of the village and is the property of Lord Barnard. It is a picturesque gabled building of the Jacobean period.

The land farmed by Mr. Harrison is made up of two holdings, one being known as Gainford Hall Farm, the other as Park Farm. Gainford Hall Farm, consisting of 76 acres of arable and 52 acres of grass land, is held on a yearly tenancy under Lord Barnard and has been occupied by Mr. Harrison for twelve years. The Park Farm consists of 98 acres of grass land, and has been rented from Henry Kitchin, Esq., of Great Ayton, since 1903. The soil at Gainford is a gravelly loam, subsoil gravel. The cropping of the arable land in 1908 was : Wheat, 4 acres ; barley, 16 acres ; oats, 16 acres ; tares, &c., 4 acres ; swedes, 10 acres ; mangolds, 3 acres ; potatoes, 1 acre ; yellow turnips, 1 acre ; one-year seeds, 8 acres ; two and three-year seeds, 13 acres. The potatoes are grown for the house and men, and the yellow turnips for winter feed for the ewes. Clover must not be taken too frequently on this land. Therefore, instead of each year undersowing with seeds the whole of the barley area, only one half is so treated. The barley on the other half of the area is followed by oats, the land receiving fifteen loads per acre of well-rotted summer-made farm-yard manure. Mr. Harrison is not bound down to any prescribed form of rotation, and his system of cropping, which is as follows, introduces clover once only in eight years :—

Fallows and Roots, 1901.

Barley, 1902.

Seeds—1903—Oats.

Oats—1904—Roots.

Wheat and Tares—1905—Barley.

Roots—1906—Seeds.

Barley—1907—Oats.

Oats—1908—Wheat and Tares.

Roots.—The land required for roots is twice ploughed and after the second ploughing 10 cwt. of ground lime are applied, the land subsequently being set up in drills in the spring. A dressing of twenty to twenty-five loads per acre of well-rotted farm-yard manure is carted and spread into the drills, and an application of 3 cwt. superphosphate and 2 cwt. kainit per acre sown broadcast with the manure drill.

The yellow turnip crop receives no artificials, as the roots grow quite big enough without such assistance.

No roots are fed on the arable land, most of the swede turnips are consumed at the homestead, the remainder being eaten by sheep on the grass land. Mr. Harrison considers that the sheep do better on the grass and that he also thereby improves his land and gets rid of Windle-Strays (Dogtail bents).

Barley is sown after roots at the rate of 9 pecks per acre, the Goldthorpe variety being preferred. This crop is not hoed, but merely looked over for thistles, &c. Very good quality barley can be grown on this farm, and this is the only produce which is ever sold off.

Seeds.—Half of the barley area, as stated above, is undersown with seeds, and according to circumstances the following mixtures are used per acre: For One Year's Ley—6 lb. English Red Clover; 3 lb. Cowgrass Clover; 2 lb. Alsike Clover; 1 lb. White Clover; 5 lb. Italian Rye Grass. For Two Years' Ley—5 lb. Perennial Rye Grass; 5 lb. Italian Rye Grass; 3 lb. Red Clover; 3 lb. Cow Grass; 2 lb. White Clover; 1 lb. Trefoil; 1 lb. Alsike; 2 lb. Cocksfoot; 2 lb. Timothy; 2 lb. Meadow Fescue. The first cut of seeds is taken for hay, the second crop being grazed by the lambs.

Oats.—The seeds are always followed by oats, and this crop receives no special attention in this case. When, however, the oats follow barley the land receives a dressing of fifteen loads per acre of well-rotted farm-yard manure, which is ploughed in during the autumn. No top-dressings are used.

Oats after seeds are followed by wheat and tares, &c. Land which has been growing oats after barley comes in for roots and receives the treatment already mentioned.

Wheat.—The portion of oat stubble which is to be sown with wheat is dressed with fifteen loads per acre of farm-yard manure as soon as possible after harvest. This is ploughed in and the land drilled with Red Standard wheat at 9 pecks per acre. No hoeings are given to this crop, which is, however, looked over for thistles, &c.

Tares, Kale, &c.—The portion of oat stubble for these crops also receives fifteen loads per acre of farm-yard manure during the winter. The tares are sown mixed with oats at the rate of two bushels of tares to one of oats, the produce is cut green

for fodder and the sowing is done at different times so as to ensure a continuous supply. Thousand-head kale is grown for the lambs, and Mr. Harrison considers it splendid for them. It does not spoil with mildew or frost, and is safe eating, not producing looseness. The preparation of the land is the same as for the tares, with the exception that in this case the land is ridged up into rows twenty-four inches apart; the crop is not thinned but allowed to grow at will, the idea being that this method produces less waste and less stalkiness. The land which has been growing wheat, tares, kale, &c., all comes in for roots, and is now thoroughly cleaned and tilled and then manured as before mentioned.

There are 52 acres of useful old grass land at the Hall Farm—of these 32 acres are mown every year and 20 always grazed. In the 32 acres of mowing grass there is a field of 12 acres which has been "sheep folded" every year. This field has improved very much indeed both in quantity and quality of herbage. The remainder of the mowing grass gets farm-yard manure every year except each fifth year, when it receives instead 3 cwt. per acre of precipitated bone phosphate. The 20 acres of pasture receive no manurial treatment. The grass is useful, but liable to scorch. It is good for milk production, particularly if there is plenty of rain. The 98 acres of grass at the Park Farm are finer in the herbage and require more careful treatment. There are 35 acres of old meadow grass. This grass is manured during autumn and spring with farm-yard manure from the buildings which lie most conveniently in the centre of the Park Farm fields. This manure from the byres is filled into carts from day to day and led out direct on to the land, which is thus manured piecemeal and labour is saved. The remaining 63 acres consist of pasture, of which a portion has received annually 3 cwt. per acre precipitated bone phosphate, and another 4 cwt. per acre superphosphate during the last three years, and so far the precipitated bone phosphate shows the better result. At Park Farm there is a most useful lot of buildings, to which the landlord, Mr. Kitchin, has just added four excellent calf boxes at the tenant's request, the latter paying a percentage on the capital outlay. The live stock on the farm at the time of inspection was as follows:—

Horses		Sheep		Cattle	
Geldings (working)	4	Ewes	60	Stud Bulls	2
Ponies	2	She Hogs	26	Young Bulls	19
—	—	Tup Hogs	17	Pedigree Cows	33
—	6	Rams	3	Non-pedigree Cows	12
—	—		106	Young Heifers	27
Pigs		Poultry		Suckling Calves	16
Large White			150		
Breeding Sows	2				109

Horses.—These are of the Clydesdale type, very good and well up to their work. They are all bought at four years old, worked and sold at six years old for town and Corporation work. There is a good demand for this class of horse, and good animals realise high prices. The horses lie out at grass all night during the summer months and receive three feeds of rolled oats per head per day when at work. During winter they get four feeds of rolled oats, long hay, and bran mash. A little linseed cake is given along with the oats.

Sheep.—The flock of English Leicesters has come to Mr. Harrison from his grandfather and uncle. There are sixty ewes, and they average one and a half lambs each. The lambing time is during February and March, the ewes receiving 1 lb. per head per day of mixed Waterloo cake and corn until the lambs begin to eat. The cake and corn is then taken off the ewes, as the trouble is to keep them lean. The lambs receive a little cake and corn all the summer. They are weaned in July and the ram lambs put on to the clover fog. Half of the ram lambs are sold for crossing, for which they are particularly well adapted where early maturity fat lambs are wanted. They average between four and five guineas each. The other half are retained for shearlings for pure flocks and to supply foreign customers. By far the greater number go abroad to all parts of the world at prices averaging from 15*l.* to 25*l.* per head. The lambs first run on the clover fog, then on the kale, from the kale to the cabbage, then to turnips, which they receive on the grass land, commencing about December. After weaning time the ewes are put on the barest pasture that can be found until fourteen days before tupping time, when they are put on to good old land fog; this method insuring a good crop of lambs. The ewes remain on the grass until snow comes, when they receive as much good old land hay as they care to eat and two turnips per ewe per day.

Cattle.—The cattle are indeed a grand lot. The breeding is nearly all done at Park Farm. Mr. Harrison's aim being to produce good dual-purpose animals for milk and beef, he introduces into his herd the best bulls he can get hold of and retains the best of his heifers, also buying in a good heifer calf or cow when desirable. The cows are allowed to suckle their calves, and are hand-milked as well, until such time as the calf can take all the milk. Foster mothers are not kept, each cow rearing her own calf. During winter the cows receive meal mash twice a day with the addition of a little bran and plenty of good hay. The meal mash consists of a mixture of oat meal, maize germ meal, and decorticated meal. During summer the cows have the grass only. The calves come in during the day and go out at night during the hot weather, and vice versâ in the

cold. After weaning, all the calves are brought to the Hall Farm, the bull calves are kept going, being well fed with cake and meal, but no condiments or "substitutes." The heifer calves receive roots and hay, and about 3 lb. Waterloo linseed and feeding cakes mixed per day. Dry cows are given turnips and straw. The yearling bulls are allowed a run in the paddock and the older ones are exercised daily. All bulls not suitable for abroad are sold as yearlings to local farmers—those suitable are kept until two years old or thereabouts, then disposed of. The mash for the older bulls consists of three parts oats to one part barley. No food is weighed; the feeder uses his own discretion, as animals vary so much in their requirements. No more is given than they will clean up each time. No animal is made too fat for breeding, not even show animals. Mr. Harrison has a great objection to over-fed animals, as they soon get lumpy and out of form, besides giving but little milk and breeding irregularly. His idea of a Shorthorn cow is that she should be level in her flesh, with a good and well-shaped udder, and yielding a fair quantity of milk. Mr. Harrison will not have them otherwise. So many show animals are ruined by over-feeding that the Judges were here struck with the natural healthy condition in which the bulls and show cattle were brought before them—all being active and good on their feet.

Pigs.—Two breeding pigs of the Large White variety supply the house with bacon and pork for the market.

Poultry and Dairying, &c.—This is Mrs. Harrison's department and is managed with great care and thoroughness, yielding considerable profit. One hundred and fifty Barndoor fowls crossed for egg production, and also for table birds, are kept, a pure bred cock of a different breed being bought each year. The milk and cream are retailed in the village, only sufficient butter being made to supply the household.

Mr. George Harrison, who has farmed since 1879, and came to the Gainford Hall Farm in 1896, has always been interested in breeding and rearing stock of one kind or another. His first fancy was for the old English Leicester Sheep—his interest in these being aroused by the flock which had been founded by his grandfather, Mr. John Harrison, in 1830. This fondness for the Leicester Sheep has continued, and to-day Mr. Harrison still takes the greatest pride in his flock, as the successes of his sheep in the showyard prove. During the years 1879 to 1907 Mr. Harrison's sheep won 12 Championships, 1902, first prizes, 676 seconds, and 140 thirds.

Mr. Harrison made a start with Shorthorns in 1879 by the breeding of the bull calf *Sir Oracle*, the sire of which was *Chaser* and the dam *Hartforth Rose*, descended from a Cradock

Shorthorn bred by a descendant of that well-known family whose old Hall Mr. Harrison now occupies.

Taking the animals which Mr. Harrison has introduced into his herd in the male line, we pass from *Sir Oracle* to *British General*, bred by Mr. Findall, of Knapton, which was his first pure-bred bull, bought in 1884 and shown in 1885. This animal was used as a stock bull for three seasons and afterwards shown at Birmingham as a four-year-old, taking first prize, and sold for further use. Then came *Prince Magnus* (Booth-Warlabby blood), bought as a calf in 1887 from his breeders, Messrs. Nathaniel Russell & Sons, of Northallerton. This bull won the first prize at the Yorkshire Show as a yearling, and during the years 1889-1890 won 19 firsts and 5 seconds. Next in 1890 we have *Duncan Gray*, bought as a calf from Mr. Scoresby, and shown in 1891 and 1892; this bull won 18 firsts, 13 seconds, and 5 thirds, and was sold for 200 guineas to go to South America. In 1891 Mr. Harrison purchased in Aberdeenshire the calf *Royal Ury*, a great prize winner (including Champion Medal at Dublin), bred by the late Mr. W. S. Marr. In 1893 came the calf *Champion Cup* (from Mr. Deane Willis) out of that best of Cruikshank heifers, *Cineraria*. *Champion Cup* was a very successful bull (first and Reserve Champion at the Royal and Champion at the Highland), and was sold in 1896 for 500*l.*—considered a very high price at that time—to go to the Argentine. The bull calf *Misty Morning* was bought from Mr. Duthie in 1896. He was very successful both as a sire and prizewinner (first at Royal as a two-year-old), and remained in the herd for seven years as stock bull. In 1897 another Duthie calf, *Count Beauty*, was used and shown for two seasons, winning twenty first and Champion prizes, including the Royal and Highland, and then sold for 600*l.* to go to the Argentine. *Silver Bell* was bought as a calf from Mr. Duthie in 1900, shown in 1901, winning first at the Royal at Cardiff, and was afterwards used in the herd until 1903, and then sold to go to the Argentine, where he has proved most successful. *Royal Ensign* was obtained from Mr. Duthie as a calf in 1904, his many winnings including first for "Bull and Produce" at the Lincoln "Royal." In 1906 *Elvetham Sweetmeat* (out of the Champion cow *Sweetheart*) came from Lord Calthorpe's herd, was used for two seasons, and then sold to go abroad. In 1906, Mr. Harrison also bought *Pride of Tees* (of the famous Augusta tribe) from Mr. Jolliffe, and so far he has proved a most successful sire, his calves looking very promising. This bull was successfully shown in 1907, and in 1908 was first and Reserve Champion at the Royal, also winning the Silver Cup for the best Shorthorn bull bred in the County of Durham. *Pride of Tees*

has now been sold at a very high figure to go abroad. In 1907 *Collynie Champion* was bought as a calf from Mr. Duthie and shown in 1908 at the Royal and Highland Shows only, taking the first prize at each show, and was not further exhibited. This bull now takes the place of *Pride of Tees* in the herd, other bulls at present in use being *Gainford Knight*, *Storm King*, and *Royal Ensign*.

We have seen how Mr. Harrison started in 1879 with a bull calf from *Hartforth Rose*. Now we come to the females, it is interesting to find that the first heifer introduced into the herd is one of her granddaughters, called *Rosemary*, out of *White Rose* (daughter of *Hartforth Rose*) by Sir. C. M. Palmer's bull at Crinkle Park. In 1891, when in Aberdeenshire, Mr. Harrison purchased from Mr. Campbell, of Kinellar, the heifer calf *Warfare*, afterwards famous as the winner of 133 prizes (three firsts at the Royal), and as being the mother of *Welcome* (sire *Champion Cup*), herself the winner of 112 prizes, including first at the Royal. In 1894 *Rose Blossom* was also bought from Mr. Campbell as a calf and won many prizes during 1895, 1896, and 1897, including first at the Royal. She was afterwards sold to Mr. Jolliffe, and produced the noted stock bull *Pride of Avon*, now the property of Mr. James McWilliam, and who has sired so many high-priced bulls at Mr. Duthie's sales. *Welcome* was bred at Gainford in 1895, and had a wonderfully successful career, as before mentioned, from 1892-1902, when she finished up by winning the Yorkshire Prize for "Cow and her Produce," thus proving that Mr. Harrison produces good breeding as well as good show animals. *Flora VI*, bought as a yearling from Mr. John Naylor, of Welshpool, was shown nineteen times in 1902, and eighteen times in 1903, never being beaten—thus winning 37 firsts and, in addition, 16 Championships in two years. Unfortunately *Flora* calved prematurely in 1903, and, despite every care and the most skilful attention, never produced another calf, although kept until 1908. She has now been slaughtered, and her head preserved and mounted hangs in the Hall and recalls to memory the best heifer Mr. Harrison ever saw. *Ursula Raglan*, bought from Mr. Anthony Dobson in 1904 as a five-year-old, has won many prizes and bred regularly up to 1907. So the list goes on and, to use Mr. Harrison's words, might continue for a week.

The following summary of successes will speak for themselves. From 1879 to 1907 inclusive, the prizes won were 91 Championships, 1,451 firsts, 717 seconds, and 204 thirds. In the Hall there are many oil paintings and photographs of the most famous of the animals and a multitude of trophies won by them. Truly this is a record of giants in the Shorthorn world.

Regarding their progeny, the scope of this report being limited, the reader must be content to remember a few names only, such as *Welcome*, *Warfare*, *Princess Mary*, *Fairy Queen*, *Semolina*, *Rosy Morn*, *Wisdom*, *Gainford Beauty*, *Beauty's Belle*, *Gainford Fragrance*, *Gainford Goldie*, *Gainford First Favourite*, *Gainford Rising Star*, *Senator*, *Red Rose Prince*, *Baron Gainford*, *Good Morning*, *Gainford Hopeful*, *Land Agent*, and *Gainford Knight*. He may further believe that the present youngsters are entirely satisfactory to Mr. Harrison and the herd profitable to a high degree. Should any one wish to see the animals, let him be assured that such a show of parents and youngsters as was presented to the Farm Judges will well repay a journey to Gainford Hall, where he will receive a hearty welcome.

Labour.—Mr. Harrison employs four labourers, each of whom receives 1*l.* per week, with house and garden, 1 pint of milk per day, 60 stones of potatoes per annum, and free cartage of coals. He also employs one man and two strong boys as cattlemen. Any extra labour required can be had at 20*s.* per week. No female labour is employed here, because they will not do the work now as they did in years gone by. The men earn plenty to keep the women. Boys receive 1*s.* 6*d.* per day. Encouragement allowances consist of 1*s.* per lamb, 2*s.* 6*d.* per calf, and 20*s.* per gelding sold.

Piece-work.—Singling and second hoeing turnips is paid for at 10*s.* per acre, and pulling and tailing at 8*s.* per acre. Labour on the mangold crop is done by day-work.

Mr. Harrison has considerably improved the farm roads, fences, and gates. Painting is done every four years over the whole farm, the landlord supplying the paint and the tenant the labour. Mr. Harrison is well supplied with good buildings and cottages both at the Hall Farm and the Park Farm. They are convenient and compact, and are maintained by the landlords and kept in excellent order by the tenant. The stackyard was extremely neat and tidy, and the stacking and thatching excellent. The farm is well supplied with implements, all of which were in good order.

Book-keeping.—The following books are kept:—Labour Book, Cash Book, and Herd and Flock Books. The costs per acre work out as follows:—Rent, 33*s.* 7*d.* per annum; rates, 3*s.* per annum; labour, 43*s.* per annum. The yearly bills for the whole farm are:—Cake and feeding stuffs, 850*l.*; moss litter, 70*l.*; artificial manures, 30*l.*; tradesmen's bills, 20*l.*; sundries—railway carriage of live stock, and shows, 200*l.*

Fences, gates, and occupation roads are maintained by the tenant, and all were in good condition.

With the exception of the barley crop, a portion of which is sold, all the produce is consumed at home by the stock, and in addition Mr. Harrison buys 300 quarters of oats per annum. Here then is a little farm of 226 acres carrying 109 head of the best of Shorthorn Cattle, and 106 of the best of old English Leicester Sheep. Indeed, the Shorthorns and the sheep made a show in themselves. The horses were all good and working into money, one four-year-old gelding especially looking like a rentpayer. The grass land was evidently all much improved, and the corn crops very clean and good. The arable land strikes one as being naturally of only moderate quality, but which has been much improved.

Selection and breeding founded on such wonderful judgment as Mr. Harrison displays must and does mean successful stock farming, both in cattle and sheep, which is of benefit to the country and to the world at large, as well as to the breeder himself. Good judgment does not end with the stock, as over the whole of the farm—arable and grass land alike—there is shown the same care and thoroughness.

Clean land in high condition best describes the farming, and good crops prove the success of it. Go where you will all is characterised by thoroughness and cleanliness, and by a desire to produce and to have only what is best in crop and stock. The Judges had no hesitation in selecting Mr. Harrison's farm for the First Prize in Class 2.

CLASS II.—SECOND PRIZE FARM.

Occupied by Mr. Fenwick Wilson, Marden, Whitley Bay.

This farm consists of 221 acres, of which 170 are arable, and 47 grass. It is held on a yearly tenancy under the Duke of Northumberland, and has been farmed by Mr. Wilson since 1885. The soil is of a somewhat mixed character, varying from strong to a light loam, with subsoils of gravel and clay. The character of the strong clayish soil has been materially modified by heavy dressings of town manure and town refuse, which latter Mr. Wilson has delivered to him in large quantities free of charge; in fact he is paid for the "privilege" of dumping. The rotation adopted here is: Roots, wheat, seeds, seeds, potatoes, wheat, oats. The land for roots gets from fifty to sixty loads per acre of scavenging manure before being ploughed in the autumn; it is cross-ploughed in the spring, cultivated and cleaned, then ploughed a third time, afterwards being set up in ridges and manured with farm-yard manure at the rate of 15 tons per acre. Excellent crops of turnips are grown on this land. The singling and hoeing of the turnips is done by piece-work at 9s. per acre, the second hoeing being

done at 5s. per acre ; the pulling, topping, tailing, &c., are done by day-work. The land for potatoes receives the same treatment as that for the turnips, and produces an average crop of 11 tons per acre, which can be readily disposed of. New seed is obtained from Scotland each year, about 15 cwt. of sets per acre being used. Wheat is taken after turnips and potatoes, and receives no special treatment. Very good crops of wheat are grown, the straw fetching a good price locally. No hoeings are given to the wheat crop, the land being left clean after roots.

Seeds are sown under the wheat crop, the mixture being as follows :— $\frac{1}{2}$ bushel of Italian rye grass, 5 lb. mixed English and French red clover, and 2 lb. alsike clover ; the seeds are allowed to lie for two years, being cut for hay twice during the first year, and once in the second, and then ploughed. The seeds land is ploughed up and cleaned during August and September, and in the autumn ridged and dunged for potatoes, or else ploughed down for oats. If oats are taken then potatoes follow the oats ; and if potatoes, wheat is taken, and followed by oats. The grain crops do not receive any special treatment.

Horses.—These consist of eleven working horses, one milk-cart horse, and one hunter. The working horses are all of the Clydesdale type, and an extraordinarily good lot. Five of the best when put together made the best lot of geldings the Judges had ever seen, all weighty good horses on the best of legs and feet. To say that they were well cared for is to state the case mildly. They were in excellent condition, and so was their harness and everything about them. The horses are worked from 6 a.m. to 12 midday, are then in the stable for one and a half hours, and go out again for four hours in the afternoon. They are fed on chopped hay and straw with crushed beans and oats. The horses are all bought at from two to five years old, worked, and sold as opportunity occurs for town work, being frequently shown with success in the meantime.

Cattle.—One bull, twenty-four cows, and ten young heifers, all Shorthorns, are kept. The cows are all bought in, and of the very best class, and appear to be really well done. During winter they receive each morning and afternoon a steamed mash, consisting of bean meal and bran, at the rate of 4 lb. bean meal and 7 lb. bran per cow per day ; also 3 lb. Bibby cake, and 3 lb. bean meal dry, per head per day, given at midday. There is a good trade for milk in Whitley Bay, where it can be readily disposed of at 4d. per quart.

Sheep.—The only sheep on this farm are those taken in upon agistment from October to March, for which 3d. per head per week is paid.

Buildings.—These are maintained by the landlord, and are good and suitable for the farm. All are kept in excellent order, and as clean and tidy as could be desired. The stackyard was exceedingly neatly kept, the building of the stacks and thatching being wonderfully well done, the Judges heartily commending the foreman who was responsible. The fences, gates, and occupation roads are maintained by the tenant, and were in excellent order.

Costs.—Rent, 49s. per acre ; rates, 8s. 6d. ; labour, 37s. 6d. ; purchased foods and manures, 25s. per acre. The labour on this farm consists of a steward, who does the stacking, thatching, hedging, &c., 28s. per week with house, 60 stones of potatoes, and 20s. for coals ; four men at 23s. each per week with house ; one milkboy at 18s. per week.

The arable land is all deep-soiled land, which is farmed right up to the hilt, splendidly tilled, and growing crops which looked well and clean. The first year's mowing clover, dressed with 1 cwt. nitrate soda per acre, was especially good. The root crops were good and clean. This farm made a very good second in the best of company. The Judges remarked that everything seen was of the best, even down to the retriever pups.

CLASS III.—FIRST PRIZE FARM.

Occupied by Mr. Malcolm Nicol, Elstob House, Silksworth Lane, Sunderland.

This farm is situated about two miles south by west of Sunderland and midway between this town and Silksworth, and consists of 48 acres arable and 45 acres grass land. It is held on a yearly tenancy under the Executors of the late Mr. John M. Ogden, and has been in Mr. Nicol's hands for the last fifteen years. The land is undulating, the soil on the high lands being of a strong character, and in the valleys light and loamy, with limestone subsoil and outcrops of the magnesian limestone.

The cropping in 1908 was :—Oats, 16 acres ; swedes, 12 acres ; potatoes, 10 acres ; wheat, 5 acres ; tares, 2 acres ; rye, 2 acres ; turnips, 1 acre.

The land is farmed under an open agreement as to cropping, and the general rotation is as follows :—Roots, oats, clover, potatoes, wheat. For turnips the land is twice ploughed, once before Christmas. After working it is set up in drills, into which farm-yard manure is carted at the rate of thirty-five loads per acre, and no other manure is given for this crop. The swede seed is sown on the drills at 3 to 4 lb. per acre, and no top dressings given. The double operation of singling and second

hoeing is done by piece-work at 13s. per acre. The subsequent cultivations consist of scufflings with the two-horse scuffler, taking three rows at a time. The swede crop is pulled, topped, tailed, and put into carts by piece-work at 8s. per acre. An average crop on this farm is 35 tons per acre.

Mangolds.—About two acres of the Red Tankard variety of mangolds are grown, the treatment of the ground and the manuring being similar to that given for the swedes, and an average crop yields 50 tons per acre.

Oats follow the roots, and a preference is here shown for the "Abundance" variety, of which a change of seed is obtained from the Lothians every two years. The land is ploughed in the autumn, and, after the necessary spring cultivations is drilled at the rate of one sack per acre. The land coming clean after root crop is not hoed, but merely looked over for thistles. The harvest operations are done by day-work, an average crop yielding 60 bushels per acre.

Clover.—The oats are undersown with the following mixture per acre :—12 to 14 lb. cow grass, and 18 lb. Italian rye grass, which is left for one year only. This is cut twice—the first time for hay, and the second time green for the cows. Very heavy crops of clover and rye grass are grown, running up to 3 tons of hay per acre for the first cut, and one ton for the second.

Potatoes follow the clover, and this crop receives 30 tons of farm-yard manure in the drills. From 12 to 14 cwt. per acre of Scotch Factor potato sets are used, new seed being obtained each year. Very useful crops of potatoes are grown; running from 10 to 12 tons per acre, for which Sunderland provides a ready market; there is also a good local market for the seed potatoes. The taking-up of the potato crop and the pitting, sorting, &c., are all done by day-work. A portion of the crop is sometimes sold as it stands on the land, and realises about 20*l.* per acre. Potatoes are occasionally grown after mangold, in which case they receive no manure. Sometimes a portion of the clover ley is sown with swede turnips, in which case the treatment of the land is similar to that given when the swedes follow the wheat crop.

Wheat follows potatoes. The land is carefully gone over for any twitch or other objectionable weeds, and then ploughed. White chaffed red wheat is usually sown and drilled at eight pecks per acre; no artificial manures are given. The wheat crop is not hoed, but merely looked over for thistles, &c.

Grass Land.—There are 45 acres of grass land, 39 of which are mown each year, and the remaining 6 left for the cows to run on; such 6 acres being changed each year. The 39 acres mown are manured annually during the early autumn

alternately with cow manure, at the rate of fifteen loads per acre, and with liquid manure. No artificials are used. The excellent use made of the liquid manure from the byre, and the results obtained, are quite a feature of this farm. The liquid manure is piped away to a big tank, from which an overflow irrigates part of a field if time does not permit of its being otherwise dealt with, but most of it is run into the water carts and taken where required. Most goes to the grass land, but some is used on the tillage.

Horses.—There are four heavy horses, strong and useful looking, for the farm work, also four good horses for the milk trade, and one nag. The horse feed consists of chopped hay, crushed oats, and bran.

Cattle.—There are forty-two non-pedigree tested cows, and a very useful lot they are. The milk is all retailed in the town of Sunderland, the carts being in the town at 6.30 in the morning and at 1.30 each afternoon. Mr. Nicol gets a better price for his milk because all his cows have passed the tuberculin test, and he holds a veterinary certificate for each one to that effect. The cows are all purchased in the Wensleydale district of Yorkshire, they are bought in at the second or third calf, milked through and then fattened off for the butcher. Some cows will only be in milk for six months, and others will go as long as twelve, or even more. During summer the cows all run out at grass during the day, and are brought in at night. Mr. Nichol believes in having all cows fed in the morning before milking commences. The summer programme is : 4.30 a.m., mash consisting of brewers' grains and bean meal with a little bran ; 7 a.m., go out to grass and tares, coming in at 12 noon to another feed of mash, and out again at 1.30. They come in for the night at 5 p.m. and receive 3 lb. of Egyptian Cotton Cake per head and a foddering of oat straw. Milking takes place at 4.30 a.m. and 12.30 p.m., the newly calved cows being milked a third time at 7 p.m.

During the winter months the cows remain in the byre, but are let out occasionally for a little exercise—this, however, only for a very short time. The winter ration is : 4.30 a.m., mash, consisting of a mixture of one-third bushel brewers' grains, 2 lb. bean meal, and 2 lb. Bibby's Dairy Meal per cow, together with a little bran ; after milking is finished about 2 stones of whole turnips are given, and also 3 to 4 lb. of oat straw, the work of gnawing the turnips giving the cows something to do ; 10 a.m., the earthenware water troughs are all cleaned out, and the cows supplied with fresh water. Two stones of turnips are given out after this and a mash as before ; 12.30, milking ; 1 p.m., 2 stones of turnips ; 4 p.m., mash, consisting of one-third bushel brewers' grains and 2 lb.

Bibby's Dairy Meal only per cow ; and, after this, 4 lb. per head of Egyptian Cotton Cake, also hay. The cows are groomed three times a week during the winter. Mr. Nicol prefers dry handed milking, and all the cows are milked in rotation so that the same milker does not milk the same cow twice. The udders are well rubbed with clean cloths and the milk is passed through a strainer and taken away from the byre immediately. The cows are well fed, and expected to do well. A careful and complete milk record is kept, the history of each cow thus being clear and complete. A glimpse at this record shows that the cows average ten quarts of milk per day throughout the year. When the yield from any cow falls below four quarts per day she is fattened for the butcher and sold off. Very good prices can be made of the fatted cows, so there is not as much drop as is usually the case between the purchase and selling prices. The cost of keeping the cows averages for the summer 8s. 6d. per week, and for the winter 10s. 6d. They all looked well and bore excellent testimony to the care bestowed upon them. The byre is well ventilated and kept thoroughly clean. It is an ideal cow house. There are stands for forty-two cows arranged in three lines, with ample room all round as well as in front and behind the cows. The roof is flat, and as Mr. Nicol is dependent upon water from the town supplied by meter, a large cistern is used to save all the rainfall for flushing and cleansing purposes. Running the whole length of the byre are two glass sided and glass roofed dormer windows, which allow of ample light and excellent ventilation when opened. The place is kept beautifully clean and tastefully decorated with hanging flower baskets filled with ferns and flowers. Every attention is paid to all-round cleanliness, all inside walls are whitewashed, and all vessels used in the trade are scalded and rubbed with lime and sand every day. Lavatory accommodation is provided for the milkers. Poultry keeping is carried on to a certain extent, about 400 eggs per week being disposed of. The same scrupulous cleanliness is carried out in this department. Table birds are not kept, but purchased for customers when required.

Labour.—The labour employed consists of :—Hind at 23s. per week with house and one pint of milk per day ; byreman at 21s. with similar perquisites ; three young men in the house who receive 10s. per week each, with board and lodging ; two girls at 8s. each per week, also with board and lodging ; two outside girls at 1s. 3d. each per day of from 8 a.m. to 5 p.m. ; and two boys for attendance on milk carts at 3s. each per week. The labour bill thus runs about 6l. per week.

Two cottages go with the farm and are occupied by the hind and byreman. The tenant is not responsible for the

upkeep of the cottages. The gates, fences, and roads were all in good order and condition.

Mr. Nicol was brought up to farming from boyhood and gained most of his experience in Lanarkshire, and his farming and methods do the greatest credit to his North Country training.

The tenant has erected a shed in which are kept his various implements, which are all of the latest type and in good order. They are sold off as they become old fashioned and the latest patterns substituted. He has also installed a five-horse power oil engine at his own expense in a building adjoining the byre for driving his crushing and chopping machinery. The landlords maintain the buildings, which were all in good order, and Mr. Nicol keeps them very clean and tidy.

Book-keeping.—Complete accounts.

The land was all extremely well cultivated and thoroughly clean. The crops were very good indeed, and showed evidence of sound management. The fields are rather inconveniently situated for the homestead, but Mr. Nicol cheerfully surmounts this difficulty and has his farm in perfect order and in a condition to yield a good return for his labours.

CLASS III.—SECOND PRIZE FARM.

Occupied by Mr. John Reay, East Brunton, Newcastle.

This farm consists of 315 acres, 230 of which are arable and 85 permanent grass. It is held on a yearly tenancy under Captain J. F. Laycock. Mr. Reay has held the farm thirty years, and speaks in the highest terms of his landlord and the agent, Mr. R. J. Aynsley. The buildings are substantial stone erections, covering a large space, and very pleasantly situated. The homestead is on a hard road, which crosses the whole farm, and is in a central position. All the fields lie conveniently near, and within easy view of the house.

Mr. Reay informed us that the buildings had been erected for the feeding and rearing of stock, but had been altered and adapted for milch cows.

Most of the soil is strong clay, which, with the large dressings of manure it receives, is full of substance. The land is farmed on an open agreement, there being no restrictions as to cropping.

The general rotation is turnips and potatoes, followed by barley and oats, according to circumstances. The barley and oats are followed by seeds, left down for several years. After seeds, oats are taken.

Roots.—The land is thrice ploughed and then cultivated and set up in drills twenty-eight inches apart. Farm-yard

manure is applied at the rate of thirty loads per acre. The drills are then split back and rolled down to a certain extent with a Cambridge roller. Turnip seed is drilled on the ridges at the rate of 3 lb. per acre. No artificials are given at time of sowing, and top-dressings are seldom necessary. No turnips are eaten by sheep on the land, the turnips being pulled off towards the end of the year and put into heaps.

Potatoes.—The land for potatoes receives similar treatment to that given to turnips, with the exception of the drills being thirty inches apart. New seed, of the “Factor” and “Up-to-Date” variety, is obtained from Scotland every year, about 15 cwt. of seed per acre being used. The setting of the potatoes is all done by female labour, and the hoeings are done by Irishmen who have come over to Brunton regularly for twenty-four years. Good crops of potatoes can be grown on this land and there is a ready market for the produce, one merchant having taken the whole growth for the past fifteen years.

Barley is taken after turnips and no manuring is given, “Burton Malting” being the variety most favoured. Oats come after potatoes and are not specially manured.

Seeds.—Seeds of the following mixture :—2 pecks finest Perennial Rye Grass, 1 peck finest Italian, 1 lb. finest Cocksfoot, 2 lb. Timothy, 1 lb. Meadow Fescue, 4 lb. Alsike Clover, 1 lb. Cowgrass Clover, 2 lb. White Dutch Clover, 2 lb. Red Clover, 1 lb. Trefoil Clover per acre are sown under the barley and oat crops, and usually lie for four years; but Mr. Reay frequently allows them to lie much longer, even up to ten years, as he considers this resting of the land under seeds to be beneficial to it.

In the ordinary course the seeds are mown for hay for the first two years. Should they lie more than two years they are generally manured with farm-yard manure, but are seldom grazed. They are usually top-dressed in the first year with 1 cwt. per acre of sulphate of ammonia.

Clover is sometimes sown to sell green in town, and a fair crop will yield good prices.

The manure used to be led by carts to the farm, but a few years ago the landlord made a railway siding, where Mr. Reay now receives it in trucks.

Stock.—The Stock consists of—

Horses.—Ten farm horses, four milk-cart horses, and two cobs. The working horses are of the Clydesdale type and are good animals, three brood mares being kept to supply the farm as well as to provide a good horse occasionally for the Railway Company.

Cattle.—Sixty-two cows, six young calves, and twelve steers. The sixty-two Shorthorn cows are a really good lot of well-bred animals, with good udders. They are all bought in fresh calved, or when just about to calve. The feeding of the cows is as follows when on grass:—Pea-meal, grains, and cotton cake. Some cows are kept eight months only, while others keep their place in the herd for a much longer period. Mr. Reay finds that with heavy feeding cows do not milk so well when they come to calve a second time as they do when they first come in. Cows milking badly are fattened off for the butcher, and as the cows are highly fed this does not take long. A most complete dairy account is kept and a milk record, so that the yield of each cow is known from day to day. During the winter months the cows lie indoors, water being laid on, in front of them. The winter feed for sixty-two cows is as follows, per day:—56 stones pea-meal (with chaff), 25 bushels of grains, 62 stones of hay, and 248 stones of turnips. The cows are milked at 4.30 a.m. and 1 p.m. They are fed at 6.30, 10 o'clock, 2.30, and 5.30. No straw is cut for the cows, but all the chaff is bagged from the threshings and steamed with the meal; long hay is also given.

Sheep.—The only sheep on the farm are those taken in on agistment on the aftermath at 4*d.* per head per week. Mr. Reay does not keep the sheep after the "fogs" are done, preferring to rest all his grass land in the winter.

Buildings.—The buildings and stack-yard were kept in a very tidy condition, the building of the corn-stacks being particularly good, reflecting great credit on Mr. Reay's servants. The implements were good and well taken care of.

The cow-sheds are rather old-fashioned, but in a scrupulously clean condition.

The land generally was clean, and the hedges tidy and in good order. The corn crops seen looked well, and the seeds very good indeed, particularly one field of 40 acres, which had been top-dressed this season.

The great length of service of those employed by Mr. Reay speaks well for the cordial surroundings of the farm.

The Judges desire to express their appreciation of the courtesy and hospitality shown by all the competitors, and to thank them for information readily given to the writer when preparing this Report.

WM. H. HOGG.

Woburn Experimental Farm,
Aspley Guise, R.S.O.

We subscribe to the foregoing Report—

JOHN EVENS,
WILLIAM HINDMARSH.

PLANS OF FARM BUILDINGS.

REPORT BY THE JUDGES OF THE COMPETITION.

IN offering prizes for Plans of Farm Buildings, the Royal Agricultural Society of England have, in a practical way, emphasised the importance which attaches to the erection of buildings best adapted to the requirements of the farmer, having due regard to economy of construction.

The previous occasion on which prizes were offered by the Society was in connection with the London International Exhibition of 1879, when separate prizes were offered for (1) Arable Farms above 300 acres; (2) Arable Farms not exceeding 300 acres; (3) Dairy Farms above 100 acres; and (4) Dairy Farms not exceeding 100 acres. Sixty-eight sets of plans were then sent in from thirty-nine competitors. Mr. J. Bailey Denton, in reporting on these plans, explained that the Judges considered that they would be failing in their duty if they awarded a prize to a design which might present admirable features of arrangement, but which could not be executed at a reasonable cost—such a cost as a Landowner would be justified in expending, and which the Enclosure Commissioners, who were the protectors of reversionary interests, would allow to be charged on entailed estates.

In 1879, the Judges prescribed a limit of expenditure, but it was found that none of the plans which provided superior accommodation with modern requirements were so designed that they could be executed within that limit, and consequently they were unable to recommend the award of any of the prizes.

Upon the present occasion, prizes were—through the generosity of Sir Richard Cooper, Bart.—offered for Plans of Farm Buildings suitable for a mixed farm of not less than 300 and not more than 400 acres in extent:—

- First Prize, 50*l.* (or *Society's Gold Medal*).
- Second Prize, 25*l.*
- Third Prize, 15*l.*
- Fourth Prize, 10*l.*

Under the conditions, it was to be assumed that the farm was half grass and half arable, the grass land being suitable for the production of milk, to be disposed of by sale or by making butter; the arable land to be regarded as turnip and barley land worked on the four or five course shift; the buildings to be suitable for a tenant farmer. A plan only of the dwelling house was required, and its position with regard to the other buildings had to be shown. Plans, elevations, and sections had to be drawn to a scale of eight feet to one inch, and were to be accompanied by complete specifications and estimates, with short descriptions of the plans and particulars stating the basis on which the estimates were calculated. The attention of the Judges was specially directed to the following points:—

1. Economy in planning, cost of construction, and subsequent maintenance.
2. Convenience of arrangement for working, and accommodation for animals.
3. Lighting, ventilation, and drainage of sheds, especially of those for dairy cattle.

In arranging the above conditions, every care was taken that there should be no question as to the general accommodation required; at the same time leaving a fair margin for variation in usage and treatment.

The very satisfactory number of seventy-eight sets of plans, &c., were submitted by seventy-seven competitors, each set being distinguished by a motto only, in order that the identity of the author might not be disclosed until after the awards had been made. The great majority of the plans were very highly finished, and reflected the care and consideration that had been bestowed upon their preparation.

The Judges were assisted in their duties by Mr. J. R. Naylor, F.R.I.B.A., the Society's Surveyor, who acted as assessor, and reduced each estimate of the selected plans to a common basis for the purpose of comparison.

The Judges, before commencing their inspection of the plans, discussed the limit of expenditure which, in their opinion, ought to be allowed for the erection of the buildings and dairy, exclusive of the dwelling house, and came to the conclusion that the cost ought not materially to exceed 8*l.* per acre.

On examining the plans and specifications, it was found that there were very few fulfilling these conditions which could be considered satisfactory in other respects. The Judges were, therefore, reluctantly compelled to exclude several otherwise excellent plans, the cost of which very considerably exceeded 8*l.* per acre.

The opinions of competitors naturally differed considerably, more especially upon the following points :—

- Covered or open yards, and kind of roofing.
- Piggeries covered or open.
- Separate covered yards for manure.
- Wooden construction of buildings.
- Kind of fittings, whether wood, iron or concrete.
- Water supply direct to cattle in the byres.
- Cubic space per cow.
- Kind of paving materials generally.
- Portable or fixed engines.
- Provision for poultry.

These, and other similar questions, were dealt with at great length in some of the reports.

Some of the plans, though good in design, were evidently by men with little practical knowledge of farming, and many were extravagant and wasteful both in arrangement and construction. Several competitors did not comply with the conditions of the competition, and many made the mistake of showing an unsuitable position for the house and implement sheds, and badly placed piggeries.

Twenty-three sets of plans, &c., were selected for final examination ; and, of these, seven only, according to the competitors' own estimates, could be carried out at a cost of 8*l.* per acre and under. On the other hand, there were several plans that might have come within the limit, had they not contained provision for more accommodation than was necessary for a farm of the size named in the conditions.

As the descriptive statements sent in by the successful competitors are published at the end of this Report, it is unnecessary to give particulars in detail of the various designs. The Judges were of opinion that, whilst no set of plans was all that could be desired, the designs of "Plough-share" most nearly complied with the terms of the Competition, especially bearing in mind the paramount claims of economy. The accommodation shown would probably be sufficient for certain systems of farming, though some additional buildings might reasonably be required under alternative methods. In that case, an extension could easily be made without in any way disturbing the excellence of the design exhibited, which would provide adequate accommodation for the largest head of stock the farm could possibly be expected to carry, and yet keep the cost well within the limit of 8*l.* per acre.

The Judges commended the designs of "Churn," "Tees," and "Comfort and Economy," on account of general excellence of design rather than suitability for a farm of the size and

description given. The plans, specifications, &c., were in these three cases thoroughly well prepared, and would provide admirable buildings for a much larger acreage.

The awards were as under :—

Award	Motto	Name and Address of Competitor
FIRST PRIZE of £50 (or Society's Gold Medal)	"Plough-share"	J. W. Hepton, Londesborough, Market Weighton.
SECOND PRIZE of £25	"Utility"	Clark and Moscrop, Feethams, Darlington.
THIRD PRIZE of £15	"Usus"	Samuel Taylor and Son, Nuttall, Nottingham.
FOURTH PRIZE of £10	"Convalescent"	John Markwell Holmes, 2, St. Mary's Gate, Grimsby.
Highly Commended	"Churn"	Paul Bausor and Son, 24, Petty Cury, Cambridge.
Commended	"Tees"	Henry Bragg, 221, White Horse Lane, South Norwood, S.E.
Commended	"Comfort and Economy"	Harry Burr, Letchworth, near Hitchin.

The following table gives the acreage of the farm for which the plans were designed, together with the competitors' prices and those of the assessor :—

Motto	Extent Acres	Cost without House		Cost per acre	
		Designer's Estimate	Assessor's Estimate	Designer's Estimate	Assessor's Estimate
		£	£	£ s.	£ s.
"Plough-share"	400	1,716	1,916	4 5	4 15
"Utility"	400	3,000	3,572	7 10	8 18
"Usus"	375	2,614	3,727	6 19	9 18
"Convalescent"	400	1,827	2,825	4 11	7 1
"Churn"	400	3,391		8 9	
"Tees"	400	6,500		16 5	
"Comfort and Economy" .	400	4,280		10 14	

ARTHUR S. GIBSON,
CHARLES P. HALL, } *Judges.*
FREDERICK REYNARD,

June, 1908.

REPORTS, SPECIFICATIONS, AND ESTIMATES

Submitted by the Competitors to whom the Prizes were awarded.

"PLOUGH-SHARE."—First Prize.

REPORT

upon Farm Buildings for a 400 acres mixed farm (assumed to be half grass and half arable).

GENERALLY.

In designing the above my chief object has been to design a plain, strong, and substantial farmstead, being built of brick, with tiled or slated roofs, concrete floors and fittings; thus the subsequent repairs and maintenance is reduced to practically *nil*.

I wish particularly to draw attention to my *concrete stalls and mangers* as erected for stables and cowhouses. They are indestructible, being both vermin-proof, fire-proof, and sanitary; the whole being the result of twenty years' practical experience.

The Farmstead has a southern aspect, the fold yards being open at front and sheltered by buildings around.

BLOCK No. 1

Comprises five-bay waggon shed, mixing and turnip house, with copper and mixing bin with water tap over, engine house, chaff bin, and straw barn.

Granary over waggon shed; meal, cake, and horse corn granary over mixing and turnip house, with concrete steps up to same; stage for chaff cutter over chaff bin and engine house; and straw barn full height at end.

NOTE.—A fireproof floor is fixed over engine house.

Concrete floors are provided for in mixing house, turnip house, engine house, chaff bin, and straw barn; the granary floors are wood upon steel joists; all walls around granary are rendered in cement and sand 3 ft. high.

The mixing house is situated in the centre of the buildings with easy access to any part.

The machinery fixed comprises turnip pulper, corn mill, chaff cutter, with all necessary shafting, belting, and broad canvas belt to carry chaff from chaff cutter to mixing house; all driven by an oil engine. (These are tenant's fixtures, and are not included in the estimate.)

Crossley's Ram Pump, in engine house, is connected to Artesian well (120 ft. deep) and made to deliver into a 1,500-gallon cast-metal tank fixed as high as possible in granary roof; the water then gravitates to all parts of buildings and house.

An emergency hydrant is fixed, with length of hose attached, under concrete staircase and opening into cowhouse.

BLOCK No. 2

Consists of two loose boxes, pigsties (all opening into fold yard), trap house, harness room, side entrance to buildings, and nag stable. All have concrete floors, grooved where necessary, with open channels delivering into fold yard.

The divisions and troughs in pigsty, and mangers in boxes, are all formed in concrete *in situ*, and walls internally rendered around in cement.

Ventilation is provided by air grates, sliding windows, top half of doors to open where necessary, and raised ridges on roof.

Light is provided by glass in top parts of windows, and glass lights in roof.

BLOCK No. 3

Consists of stalls for fifteen cows, six calf pens, and four boxes for young stock, with feeding passage down centre. The whole of the cow stalls, divisions for calf pens and boxes, and mangers, all with rounded nosings, are formed in concrete *in situ*. The floors are formed of concrete grooved, with all channels and falls complete, and made to deliver into fold yards; all walls internally rendered around in cement.

Ventilation is provided by air grates, sliding windows, top half of doors to open where necessary, and raised ridges on roof.

Light is provided by glass in top part of windows, and glass lights in roof.

Water is laid on for cleansing and other purposes.

BLOCK No. 4

Consists of cart horse stable for eight horses in single stalls, sick box, and chaff house, with provision on walls of chaff house for hanging spare gears.

The stall divisions and mangers are formed in concrete *in situ*. The floors are formed in concrete, grooved, with all channels and falls complete, and made to deliver into fold yard. All walls of stable and sick box are rendered 5 feet high in cement.

Water is laid on for cleansing and other purposes, and a water trough is provided near entrance to stable.

Ventilation is provided by air grates, sliding windows, top half of doors to open, and raised ridges on roof.

Light is provided by glass in top part of windows, and glass lights in roof.

BLOCK No. 5

Consists of fold yards, half of each being covered in with corrugated galvanised iron roof with iron principals carried upon brick piers, and having ventilating ridge full length of roofs, and with glass lights in roofs and windows in gables.

Concrete cattle mangers and water troughs are provided, with feeding passage behind. Water trough is fed by secret ball tap. Grooved concrete causeways are provided both sides of folds. The yards are dished towards gully in centre.

BLOCK No. 6

Consists of slaughter house with copper, tool house, three-bay implement shed, and hen house. The floors of hens, slaughter, and tool houses are formed of concrete.

DRAINAGE SYSTEM.

The drains are laid with 4-in. and 6-in. deep splay socketed sanitary pipes, caulked and jointed in cement, with all gullies, manholes, &c., necessary as shown on plans, and connected to settling tank and filter in fields.

The liquid manure from all buildings is conveyed by open channels into fold yards where it is absorbed by the straw manure.

SPECIFICATION.

GENERAL CONDITIONS.

Quality of Work.—The Contractor is to supply all labour, materials, &c., which may be necessary for the entire completion of the several works included in this specification.

The whole of the materials and workmanship are to be the best of their respective kinds.

EXCAVATOR, DRAINER, CONCRETOR, AND BRICKLAYER.

Bricks.—All bricks to be hard burnt clamp bricks. P.C. 24s. per 1,000 on site.

Mortar.—The mortar to be composed of one part hydraulic lime to $2\frac{1}{2}$ parts clean, sharp sand. Lime, P.C. 13s. per ton; sand, P.C. 2s. 6d. per ton on site.

Cement.—All cement to be best Portland from approved makers. P.C. 30s. per ton on site.

Gravel.—All gravel used in floors, stalls, &c., to be clean pit or sea gravel. P.C. 3s. 6d. per ton on site.

Excavate trenches for all footings and floors to depths as indicated by Plans and Sections.

Drains.—Provide and lay 4-in. and 6-in. deep splay socket salt glazed pipes, with all gullies, bends, junctions, &c., necessary, caulked with yarn and pointed in cement, with gradient not less than 1 in 40 for 4-in. and 1 in 60 for 6-in. pipes; and with manholes and inspection eyes as shown.

Concrete.—Form all concrete mangers, stalls, and divisions in position in proportion of 3 to 1, and finish with steel trowel, rounding all nosings.

All concrete floors to be laid in proportion of 4 to 1, and with open channels and grooved where shown by Plan and Details, and form concrete fireproof floor over engine house.

Walls.—Build up all walls of good sound brickwork, 9 in. and 14 in. thick as shown by Plans and Sections, in old English bond grouted solid, with bull-nose corners to all piers and openings for sliding doors, and oversail eaves and gables two courses.

Arches.—Build all arches in cement and sand, and full thickness of all walls.

Rendering.—Render around walls of stable 5 ft. high, cowhouse and pigsty 3 ft. 6 in. high, and granary 3 ft. high in cement and sand.

Air Grates.—Fix twenty 9-in. by 6-in. sanitary air grates in stable and boxes, &c., as directed.

Sills, &c.—All window sills, granary steps, and bases to piers to be cast concrete.

Roofs.—Cover all roofs with French pantiles laid upon laths and sheet laths, and bedded in hair and lime; and fix glass tiles as indicated on Plan. Bed and point in cement concrete ridges and raise for ventilation where shown, and collar down gables in cement and sand.

Furnace Pans.—Fix 40-gallon furnace pan in mixing house, and 25-gallon ditto in slaughter house, with door and frame and gate in brickwork complete.

Harness Room.—Fix small range with boiler, and 30-in. by 18-in. by 5-in. salt glazed sink and waste pipe upon brick piers in harness room.

CARPENTER AND JOINER.

All timber used for roofs and joinery to be best Petersburg Reds, free from sap, large, loose, or dead knots, and used in the longest length practicable.

Centring.—Provide all centres and turning pieces, &c., as necessary.

Roofs.—The Roofs to be framed in the strongest manner possible according to the drawings, and of the following scantling:—

Principals	...	...	...	Iron.
Purlins	...	...	...	3 in. by 7 in.
Plates	...	...	...	3 in. by $4\frac{1}{2}$ in.
Ridge	...	...	...	$1\frac{1}{2}$ in. by 7 in.
Rafters	...	...	...	3 in. by $2\frac{1}{2}$ in.
Valley Boards	...	...	...	1 in. by 11 in.

Fold sheds covered with twenty-four-gauge corrugated galvanised sheets with ventilating ridge.

Granary Floor.—Fix $2\frac{1}{2}$ -in. by 7-in. joists upon 10-in. by 6-in. steel joists with dogs and plates, and lay $1\frac{1}{4}$ -in. by 6-in. P.G. & T. red flooring upon same with bridging complete.

Partitions.—Frame partition to meal and cake store of 3-in. by $2\frac{1}{2}$ -in. studs, &c., and 1-in. by 6-in. G. & T. boards, with 1-in. batten doors hung complete.

Nag Stable.—Form stall, and partition with door of 1½-in. boards and double rails to form box, as per Plan, with wood manger in stall.

Doors and Frames.—All door frames to be 4 in. by 7 in. with metal shoes; doors to be 1½ in. beaded both sides, ridged and braced, and double hung where shown. The sliding doors to be 2½-in. framed doors with runners complete.

The fold yard doors to be 2½-in. framed doors, with 12-in. by 12-in. pitch pine posts, and with all necessary ironwork complete.

Windows.—The windows for granary to be louvre windows with 10 in. glass over top.

The windows for cowhouse, stable, boxes, &c., to be hit and miss windows with 10 in. glass over top.

PLUMBER, PAINTER, AND GLAZIER.

Lead Gutters.—Provide and lay 6-lb. valley gutters 18 in. wide, and use 4-lb. lead for all aprons and flashings.

Iron Gutters.—Provide and fix to eaves 5-in. heavy cast-iron gutters, hot tarred two coats inside, and jointed in red lead putty, and with 3-in. fall pipes, bends, &c., necessary.

Fix 9-in. by 5-in. heavy valley gutter to fold sheds with outlets and 4-in. fall pipe. Valley gutter hot tarred, two coats, inside and out.

Glass.—Fix 15-oz. glass to all windows, bedded in oil putty, and fix upon fold shed roofs Messrs. Pilkington Bros.' wired rolled plate as roof lights.

Water Supply.—Sink artesian well 120 ft. deep of 2-in. bore, lined through to the rock, and connect to same Messrs. Crossley's ram pump, P.C. 15L, made to deliver into 1,500-gallon cast-metal tank supported upon granary walls. The supply to gravitate through 1-in. main and ¾-in. and ½-in. branch pipes to water troughs and taps as shown, having stop taps and covers as necessary. The troughs in covered folds are fed by concealed ball taps.

Provide and fix 2-in. hydrant as shown.

Painting.—Stop and paint in oils, three coats in addition to priming coat, all wood and ironwork usually painted, with best lead and oil paint.

ESTIMATE.

NOTE.—This Estimate is based upon Bills of Quantities which have been measured off Plans and priced, allowing for all labour and materials, but no allowance made for Architect and Surveyors' charges.

Block No.	£	s.	d.
1. Barn and Granary	534	0	1
2. Nag Stable, Boxes, and Piggery	204	17	4
3. Cowhouse and Boxes	243	7	11
4. Cart Horse Stable	203	3	0
5. Fold Sheds and Cattle Mangers, &c.	222	0	10
6. Implement Shcd, &c.	89	1	9
Drainage System. <i>Building only</i>	43	11	0
Water Supply. " "	91	9	5
Total	£1,631	11	4

ALTERNATIVE.

If with slated roofs instead of tiles	£1,716	5	4
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MACHINERY EXTRA.

Messrs. Crossley's K.K. 2½ B.H.P. Oil Engine	} £102 0 0
1 Turnip Pulper	
1 Chaff Cutter	
1 Corn Mill	
Shafting, Belting, &c., for above	



· VIEW OF FARMSTEAD ·

of 'PLOUGH-SHARE'

Nº 3

PLAN OF FARM BUILDINGS OF 100 ACRES MIXED FARM OF 'PLOUGH-SHARE'

Nº 2



SECTION A-B



SECTION C-D



SOUTH ELEVATION



NORTH ELEVATION

"UTILITY."—Second Prize.**REPORT.**

It is believed the homestead illustrated by these plans will be found to be eminently practical and useful, and suited to the purposes of such a farm as is described in the conditions.

It will be seen that the food and fodder distribution buildings are made the centre of the steading, and all the stock accommodation is arranged round about.

The gangways are so disposed as to reach every class of stock with the least possible amount of labour, and always under cover.

The straw barn, food-mixing house, root store, and cart and implement sheds, with granaries, chopping floor, and cake store on the upper floor over same, are arranged on the north side of the proposed range of buildings, and so shelter the whole of the stock yards, byres, &c.

It is suggested the stackyard, with Dutch barns and transveyors, should be immediately to the north side of the buildings.

The oil engine house is suggested adjoining the mixing room. This engine will drive a central shaft from which will be worked the hay and straw chopper, cake crusher, corn grinder, turnip cutter or pulper, as well as the pump to lift water from the well to a central cistern whence it will gravitate to all the buildings.

The cattle of all sorts and horses are arranged for on the south side of the food distribution centre, all their accommodation being open to the sun for the whole of the day.

The cattle are disposed of partly in stalls, partly in boxes, and partly in covered yards.

There are four covered yards, each with an area of 1,274 square feet. Each of these will accommodate from eight to fifteen head of cattle, according to the size of same. One or more of the yards, if desired, may be subdivided by a movable rail fence.

The cattle accommodation is as follows:—

In tie-up stalls	42
In separate or fattening boxes	18
In four covered yards averaging eleven each	44
Spare boxes and bull	4
Calves' boxes	10
	<hr/>
Total	118

There are three other boxes which will be available for either cattle or pigs. These have runs into covered fold yards.

There is accommodation for eight cart horses, and a large horse box for mare and foal. A convenient fodder store is arranged in connection with the range, and served either from central feeding passage or from outside.

The nag stable with two stalls, harness and fodder store, and gig house are arranged on the west side near to the dwelling-house, and approached either from inside of main buildings or from outside.

It will be seen that the centre gangway leads direct from the tie-up byre, towards the dairy, &c., attached to the house for easy conveyance of milk, and also for quick access from the house of the farmer for general supervision of the whole of his premises.

A conveniently placed boiling house is arranged adjoining the calf houses and boxes which may be used for pigs. This boiler house is accessible from the house and dairy side.

EXTRA ACCOMMODATION.

A blacksmith or joiner's shop, a sick box or slaughter house, are useful adjuncts to a large farm; these are shown in a detached block, and further extension by way of a lock-up implement shed is also indicated.

THE ATTENTION OF THE JUDGES IS SPECIALLY DIRECTED TO—

- (1) The closeness and economy in the general plan, the simple character of the buildings, and consequent economy in cost of erection and maintenance; (2) The general convenience for feeding, dunging out, working and supervision of the whole, with the least amount of labour to the farmer and his men; (3) The special provision, of an inexpensive kind, made for ventilation without draughts, and lighting of the whole premises.

WATER.

All rain water will be saved for cattle and supplemented by water pumped by engine up to a central tank. All gutters between ranges of buildings will deliver into water troughs in covered yards and other convenient positions. Whenever rain water fails, the well water would be turned on.

DRAINAGE.

All drains will be in straight lines and commanded by small inspection chambers so that the whole can be readily examined and rodded from end to end. All liquid manure drains will be carried to a central tank for pumping into liquid manure carts. No rain water will be connected to these drains. As much of the liquid will be put into the covered yards as can be absorbed by the litter therein, but experience has proved it is not possible to so deal with the liquid from a large cow byre, and this therefore will go through chambers direct to liquid manure tank. Open channels are recommended for cart horse and nag stables' drainage. In the case of former, the open channel will deliver on to surface of fold yards.

SPECIFICATION.

The materials for buildings must necessarily vary with the situation. In this case it is suggested the buildings should be erected with hard burnt bricks, and roofed with pantiles or slates.

An economical roofing would be the "Eternit Roofing Tile" made of asbestos. It is light and not affected by extremes of weather as slates. The cost appears to be about the same as Welsh slating, but as the rafters can be placed at 30-in. centres there is considerable economy in the woodwork. Spaced slating is suggested for upper parts of covered yards.

Cart horse stables would be paved with heavy scoriæ bricks (where obtainable from slag works), otherwise these and nag stable, boxes, food mixing house, gangways, &c., would be paved with strong cement concrete, on a foundation of broken brick or stone. The concrete floors to be roughened on surface where necessary.

All woodwork used to be clean redwood. In some districts creosoted boarding might be used for covering in covered yards, but it is doubted whether there is any ultimate economy in this.

Wherever possible eaves of roofs should project beyond the walls, and downcomers should be packed out from the walls so that in case of stoppage of either spouts or downpipes the water falls clear of the walls, and so avoid what is a fruitful cause of present dampness and future decay of pointing and walling.

Spouts and downpipes to be of heavy iron.

The cattle troughs should be of heavy salt glazed earthenware.

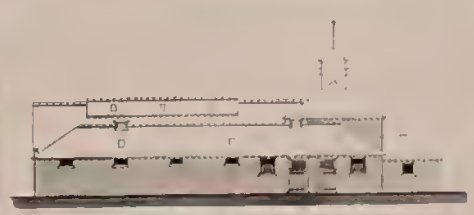
Ironwork to doors, bolts, &c., all to be blacksmith made and "extra strong."

Oak posts to be used for stables, byres, boxes, &c.



N.E.L. DESIGN FOR FARM BUILDINGS.

FOR 300-400 ACRES.



The house suggested is thought what would be necessary for a good class of tenant on a farm of this size. The dairy is outside, and the accommodation here is only suggestive, as much depends upon what the farmer will do with his milk.

ESTIMATE.

The cost of the buildings depends considerably upon local circumstances. Similar buildings finished in a substantial manner have been erected under recent contracts at $2\frac{1}{4}d.$ per cubic foot. On this basis the buildings here illustrated would cost £3,000

“USUS”—Third Prize.

REPORT

On design for a homestead for a mixed farm of 375 acres, principally for the production of milk, and raising heifers to replace draft cows at about fourth calf.

Working Basis.—The situation of a farm for production of milk for sale must to some extent influence the accommodation to be provided for live stock.

If the farm is situated in a belt surrounding one of the large centres of population, such as Newcastle, Leeds, Sheffield, Liverpool, Nottingham, Leicester, Birmingham, and many others, it would probably be the most profitable to keep the largest herd of dairy cattle, raising no young stock, but selling all calves at the drop.

On the other hand, if the farm is situated within say two and a half miles of a railway station, and twenty to fifty miles from a centre of population, it would probably be the most profitable to raise sufficient heifers every year to replace draft cows at about fourth calf, and for a basis upon which to work we have adopted the latter circumstances, and have also borne in mind that a homestead in these circumstances, far from being merely a collection of buildings for housing animals, is mainly a winter factory in which concentrated food for man is extracted (principally by live stock) from a considerable proportion of the crops of the farm, the sole object being the production of the greatest value in the extract (in this case milk) at the least possible cost, combined with the complete and economical preservation of the by-products—dung and urine—which contain about 90 per cent. of the original valuable constituents of the crops consumed.

Size of the Farm.—The farm is assumed to be 375 acres in extent, comprising 185 acres of grass, and 185 acres of arable (good turnip and barley land), the remaining 5 acres being absorbed by the site of the house, buildings, garden, orchard, rickyard, and roads.

System of Farming.—The farm is supposed to be situate within two miles of a railway station from which there is a convenient and quick service of trains to a large centre of population (say 300,000) within a distance of fifty miles, where there is a regular demand for milk at a good price.

It is proposed to make milk for sale the principal product of the farm, supplemented by sales of calving cows at about fourth calf (raising sufficient heifers each year, in number equal to one-third of the milking herd, to replace draft cows), breeding and feeding a quantity of pigs, and fattening off a number of wethers on a portion of the root crop on the land in all but the scantiest seasons.

Situation of Homestead.—The homestead is to be placed on a private road running east and west through the farm. The site is assumed to be almost level, having a slight fall to the south east, and it is also assumed that a good supply of water for all purposes would be secured within 30 ft. of the surface.

Number of Stock.—On the five-course shift there would be for winter food say—

50—60	acres of meadow hay.
37	" " clover hay.
74	" " oat and barley straw.
32	" " roots (5 acres being used for potatoes and vetches).
37	" " wheat straw for litter, &c.

The above, with the proper proportion of cake and meal necessary to bring the rations up to the proper albuminoid ratio, should provide sufficient for—

12	horses.	
72	dairy cows.	
25	rearing calves.	} Taken at end of the summer.
25	heifers, 6 to 12 months old.	
25	" 18 to 24 " "	
1 or 2	bulls.	

Pigs, &c., with a varying number of wethers to pick up the remnants of grass and clover, and feed off on surplus roots on the land.

Accommodation provided.—In a dairy herd for sale of milk it is assumed that the cows and heifers would be timed to calve regularly the year round, the heifers calving mostly from May to August and the cows which are to remain in the herd from August to May, the heifer calves from the latter being reared mostly in the winter, so that there would be an average of about eight cows constantly dry for calving, and as the latter are usually better in covered yards or boxes during the dry periods, the following accommodation is provided:—

Stalls for sixty-four cows constantly in milk, in a central position on the south side.

Boxes for eight dried-off cows.

Covered yards (open only to the south) for - -	{	Twelve heifers, 6 to 9 months old.			
		"	"	6 to 12	" "
		"	"	18 to 21	" "
		"	"	21 to 24	" "

Stalls for eleven horses, horse-box, harness room, forming the western wing.

Five boxes for calves, bull-box, two other boxes, and tool house, forming the eastern wing.

Food mixing room, with chaff cutting, corn grinding, and cake crushing chamber over, forming the central portion of the north side, with milk cooling room, cart and waggon shed with granary over to the right of the centre, and root store, engine room, market and milk cart shed with straw and litter store over, and accommodation for water supply tank of 2,100 gallons capacity on the left.

Three pig breeding styes and four others, with adjacent boiling house for preparation of food for pigs and calves, hospital in an isolated but sheltered position, forming with the implement shed, which faces north, a separate block to the east of the main block, from which it is separated by a road, 24 ft. wide.

Covered manure pit sufficient for 300 loads, and liquid manure tank for 15,000 gallons on the south of the main block, opposite the cowsheds.

The position of the house is indicated on the block plan, and a ground floor plan is also submitted as a suitable one for a tenant farmer of a farm of the class adopted. As no details of the house are asked for, its construction has not been dealt with in the specification, nor its cost included in the estimate of cost. There would be six bedrooms on the first floor, with linen room, fruit room, and bath and w.c., and two attics.

In conjunction with the house a dairy, churning room, and utensil washing room are shown; these would be required for dealing with the surplus milk there might be at times.

Points attended to in designing the buildings.—The whole of the buildings have been designed to meet the requirements of the Model By-laws of the Local Government Board applicable to such buildings, and the following points have had special attention, viz :—

1. Economy in planning, and in cost of construction and subsequent maintenance.

These objects have been attained by compact arrangement, avoidance of waste spaces, omission of superfluous compartments and of ornamentation of any kind, &c., combined with simplicity of construction giving a maximum of strength with a minimum of material, involving very small cost of up-keep, probably less than 10*l.* per annum, being sufficient to keep the whole in repair and painting for fifty years, and probably less than 15*l.* per annum for the second fifty years—which estimates have been arrived at by the aid of nearly half a century's experience in designing and superintending erections and restorations of homesteads of all classes and in the management of landed property.

We have found throughout a long experience that even the wealthiest owners are averse to spending a penny more than is absolutely necessary for the proper working of the farm, and we have in this design adhered strictly to this principle, believing that more luxurious designs are useless except on paper.

The Specification gives in detail the nature of construction and materials, therefore nothing further need be said here except that the covered yard roofs are constructed entirely of creosoted wood in the most efficient and economical manner and to last at least thirty to thirty-five years without necessitating an outlay of one penny during that period, and afterwards only on the board covering, since the remainder of the roofs would last sixty to seventy years without the slightest need for renewals.

2. Convenience of arrangement for working.

The greater part of the labour done about the buildings may be classed under three heads : (i.) Feeding the live stock; (ii.) Distributing litter and cleaning out dung ; (iii.) Milking.

The buildings have been designed to secure the greatest economy and convenience in performing these three principal classes of labour and the same prominence has been accorded to the question of economical working as would be done in an up-to-date textile factory.

Feeding arrangements.—(1) A commodious mixing room, sufficient for all food to be mixed several hours before being fed to the live stock, is provided in a *central* position, with chaff bins, cake and corn bins, root store and pulper all close at hand and easily accessible.

From this centre, food is distributed along gangways at the front of the cattle to over 120 head within twenty paces of the food house.

The chaff, roots, &c., would be conveyed on a low four-wheeled trolley with light but deep sides holding sufficient for six to eight cattle. The hay would be carried in trusses on a flat-bottomed trolley.

The average distance travelled to feed the 120 head of cattle is 8 yards per head, whereas if the gangways with mangers on either side were placed in a continuous line the average would be 48 yards per head. Considering the enormous number of times these gangways have to be traversed during seven to eight months of the year, it will at once be apparent how great is the economy in working effected by the concentration of the parts adopted in these plans.

Ample corn, cake, hay and straw stores are at hand on the first floor, and hay for cattle would be stored on the ground floor in the recess at the end of the mixing room.

The boiling house for preparing food for the pigs and calves is placed in a convenient position for both, and contains a 40-gallon copper, food bins, and would have a water supply laid on.

Economy in labour in supplying water to the live stock and elsewhere, as required, is effected by a system of water supply hereafter described in detail.

The work of corn grinding, chaff cutting, water pumping, &c., would be done by machinery driven by an oil engine placed in a convenient position for starting, &c., relative to the machines to be worked.

Distributing Litter.—(2) Litter would be stored on the first floor over the milk cart shed, &c., and, for the purpose of distribution, small doors at first floor level are provided over the stable, to each of the cow boxes and for each range of cow stalls, and a trap-door for putting litter through for calves, and boxes on the east side. Litter can be dropped through these doors ready for spreading with practically little labour spent in carrying.

Cleaning out dung.—The dung from the cowstalls and pigs containing very little litter would go to the covered pit. To put this class of manure in the yards where there are young cattle would involve much waste of labour and of straw as litter to cover the manure. Every ton of straw saved from use as litter is a gain of at least 25s. to the farmer, hence the advantage of keeping cattle clean and dry with the least possible amount of fresh straw litter as is here suggested.

The dung from the whole of the stables would be scattered over the western covered yard, and that from the calves and other boxes over the eastern covered yard. Doors are placed in convenient positions for the purpose of putting the dung through to save labour in carrying it any distance.

Milking.—(3) As this operation has to be performed over 700 times a year as expeditiously as possible, it is most important that the best arrangement for ease of working should be adopted. For this purpose a milk cooling room is provided at the eastern end of the food house, easily accessible from the cowsheds, but completely shut off in order to avoid any possible contamination of the milk.

This milk cooling room is provided with a 40-gallon copper having water tap over to furnish boiling water for cleansing the cooler, and separator, &c.

As bearing on the question of economy in working, it may here be noted that in the process of milking, one minute's labour saved in milking a cow is equivalent over the whole herd of seventy two cows to 15l. per annum in wages : and the same may be said to apply in a greater or less degree to the other classes of labour.

A further great advantage in convenience of working afforded by these designs, is that practically the whole of the various operations involved in feeding, milking, and dunging out, can be carried on under cover, and as much of this work has, in the winter months, to be done before and after daylight, and often in wet weather, the advantages of this arrangement in promoting efficiency, and thus also a saving, of labour are very great, especially so in these (and probable future) times of expensive and often inefficient labour.

3. Best and most economical accommodation for live stock.

Cow Stalls.—These are placed in four ranges of eight (double) stalls each. Each cow is provided with a separate manger formed with glazed stoneware channels 18 in. diameter having rounded concrete ends, there being no angles whatever for the accumulation of food, dirt, &c. The stalls from the manger to the heel stone might vary in length from 6 ft. 2 in. to 6 ft. 6 in.

Cow Boxes.—These are placed at the north end of the covered yards and are well adapted for dried-off or in-calf cows. The boxes would be formed with creosoted boarded partitions 6 ft. high and have boarded gates. Each box is provided with manger as described above, and water trough with hay rack over the whole.

Calf and other Boxes.—The advantage of a number of boxes is great, as they may be used for cattle, pigs, horses, and numerous other purposes as required from time to time. The whole are roomy and provided with mangers or iron troughs, hay racks, and water troughs where necessary.

Stables.—The form of these is clearly shown on the Plans and calls for no comment. Each stall is provided with mangers, as previously described, and hay racks, and separated from the next by a substantial wood partition boarded both sides to the middle rail and one side above same.

Covered Yards.—These are divided into compartments by post and rail fences with gates, as it is undesirable to have too many heifers together. The whole are provided with stoneware channel (15 in. diameter), mangers, and wood hay racks as before described.

It should be noted that with the exception of the eight cows in boxes—and these would only require to be moved once in six or seven weeks—no other live stock whatever are required to pass through these yards.

Piggeries.—These require little explanation as the drawings show their form and construction. They are ample for a good herd of pigs (the two covered yards being available for any surplus stock during the summer months).

Hospital.—This is placed in an isolated position, but sheltered and conveniently in connection with the other buildings. It is commodious and provided with manger, hay rack, and beam for slinging horse, &c.

4. Lighting.

The whole of the buildings are *well* lighted by means of windows and skylights.

The cowsheds are lighted by means of numerous cast-iron windows in the southern gables, and so distributed that when the sun shines in winter, its rays may penetrate every part of the cattle sheds between 9 a.m. and 3 p.m.

There are also skylights 6 ft. by 4 ft. over each range of stalls towards the northern end of the sheds, and sliding casements on the east and west walls with wide openings in the wall between the sheds so that no portion of the latter will be unlighted.

The horse and other boxes are provided with iron windows in all southern gables, and on the sides with casements to open inwards into hopper brackets fixed 5 ft. above the floor.

The calf boxes are provided with sliding casements on the sides as before.

The hospital is provided with two casement windows on the west side and a skylight 4 ft. by 3 ft.

The stable is amply lighted by iron windows in the north gable and a skylight on the west side. The horses being out of the stable during the greater part of the day there is not the same necessity for direct sun's rays penetrating the stables as in the case of other live stock.

The mixing room, engine room, milk cooling room, and chambers are amply lighted by iron windows as will be seen in the elevations.

The covered yards are open to the south and will consequently receive all the sunshine available, even in the depth of winter.

5. Ventilation.

The principle adopted for securing thorough change of air in all parts, more particularly in places occupied by live stock, is to bring in cold fresh air near the floors and as near as possible to the points where it is required and to send out the warmer vitiated air at the highest points of the roofs, thus depending upon natural laws to secure the best possible ventilation without having resort to mechanical means.

In the cow stalls the major part of the fresh air is required for the lungs of the cattle, and this is brought in at both ends of the feeding passages by grates in the walls on the southern side, and hit and miss slides in the lower part of the doors into the mixing room. The air in the latter would always be cooler than that in the cowsheds and would constantly flow down the passages like a stream of water and there being rails only separating the cattle from the passages there would be a good supply of fresh air constantly passing the cows' heads to be inhaled by them.

A number of air grates at 9 in. above the floor level sloping down to the latter are provided in the east and west walls to supply air to replace the smaller amount of air heated and rarified by coming in contact with the animals' bodies.

On warm days, when the temperatures outside and inside are nearly the same, the whole of the windows on the south, east, and west sides can be set open, and semi-circular openings 6 ft. wide between the trusses in the division wall being provided, a thorough circulation of air would be obtained.

The vitiated air would be drawn off by movable louvres at the apex of the roof, these being so constructed that each side can be opened and shut independently of the others to suit the direction of the wind (it being desirable to be able to close the side exposed to a gale).

The calf house and stable are ventilated in a similar manner, and the other boxes where there are no louvre ventilators would be provided with a sufficient number of ventilating ridge tiles.

One important point in connection with the ventilation of buildings for live stock is the construction of the roof.

Both tiled and slated roofs are at their best very much like a *sieve* so far as the atmosphere is concerned, and particularly so when the outside temperature is low. The outside cold air will find its way through the very numerous joints and fall on to the backs of the cattle very much like a stream of cold water, bringing down with it a portion of the vitiated air, which has been cooled by contact with the very cold slates or tiles, greatly to the injury of the cattle.

It is important that this condition of things should be avoided if possible, and the best means of so doing is to lay the slating on grooved and tongued boarding instead of laths, and we have adopted this construction in these designs. Red deal being a bad conductor of heat, the warm air striking it is cooled but slightly and will therefore continue to rise to the exit provided, and no cold air can get in through the boards to fall on the cattle like cold water, nor bring down vitiated air with it.

Lest this method of construction should be considered expensive, it may be pointed out that the necessary boarding costs but 8s. per square more than the lathing and torching, and that the cost amounts to less than 6s. per cow stall, or less than 4d. per cow per annum will pay 5 per cent. on the outlay—certainly not a tithe of the real value, for, in addition to the advantages already described, the boarding can be readily lime-washed (to comply with the sanitary regulations) and affords no spaces at the back of the rafters, as in the case of a lathed and torched roof, for the accumulation of dirt.

6. Drainage.

Sewage.—The whole of the floors, where there is any possibility of there being any urine or drainage from manure, are formed with cement concrete and rendered thoroughly impervious, the covered yards being left with a surface upon which horses can stand to draw out the manure.

The only exceptions are the very hard brick on edge pavings (in cement) at the rear of the cow stalls and stables where the horses and cattle would have to walk in passing in or out, cement floors being too slippery for this position.

For the disposal of the urine, &c., from the cowsheds a channel 3 in. wide at the outer edge of the dung channel is provided, the heel stones being so fixed as to enable the urine channel to be laid with a fall of 9 in. from north to south: on reaching the south wall the urine would pass out through a glazed stoneware pipe fixed into the wall and discharging over trapped gullies, whence the urine would be conveyed to the liquid manure tank in glazed stoneware socketed and cement jointed pipes.

The rest of the boxes and stables would be drained by means of slightly dished channels formed in the concrete flooring, having not less than 1 in 60

fall, and discharging by means of pipes through the walls either into the covered yards or over gullies and thence to the tank as above described.

The whole system of drainage is indicated in detail on the Plans.

Rainwater.—The whole of this is entirely excluded from all yards occupied by cattle or used for dung pits, and none whatever is allowed to mix with the urine or solid manure.

Large deep half round cast-iron gutters are fixed to all eaves, and are brought right to the outside of all yards at the southern ends (so that there can be no possibility of any overflowing into the yards), and the water from the whole is conveyed by pipes down the walls into gullies, and thence in stoneware socketed cement jointed pipes clear away from the buildings.

To aid the flow of water in the gutters from north to south, and to assist the drainage of the sheds the buildings would be erected with a slight fall in themselves in that direction.

7. Preservation of the Manure.

It is estimated that manure to the value of considerably over 300*l.* would be made annually (by good farming) at this homestead, and that by exposure to constant rains, as is the case at many homesteads, one half the value might be lost. To avoid this heavy loss a covered manure pit is provided for all dung which cannot be thrown into the covered yards.

With the dung pit is a liquid manure tank provided with pump, so that the liquid can be pumped on the manure in the pit (which by exposure to sun and wind would become dry), and so save waste or separate distribution.

8. Water Supply.

A well 30 ft. deep by 4 ft. 6 in. internal diameter is provided, being dry brick lined to within 6 ft. of the top, the remainder of the lining being set in cement.

From the well water can be pumped to a large iron tank (2,100 gallons capacity) fixed 16 ft. above ground or high enough to supply bath and w.c., &c., on first floor of house.

For the distribution of the water, strong lead pipes would be laid under the floors to the various points: although lead costs more than galvanised iron in initial outlay it lasts considerably longer, and as most of it would be laid under the concrete paving the extra cost would be saved many times over in the long run by saving of renewals and pulling up floors.

Two systems would be adopted for distribution, viz., a high pressure system to the taps and a low pressure system for supplying all drinking troughs in the yards and roads.

High Pressure System.— $\frac{1}{2}$ -in. lead piping would be taken direct from the large tank to the various taps marked on the plans (except the one in the nag stable), and brass quarter turn bib taps would be provided, and stop tap and vent screw for emptying the pipes during frosty weather.

Low Pressure System.—Galvanised iron troughs supported on brick bases are provided for the yards, stables and cowsheds at points marked on the plans. These would be supplied by a $\frac{3}{4}$ -in. lead pipe from a second small cistern fixed under the chaff chamber steps in the stable, with the top level with tops of all the water troughs (these all being on a level). Water would be brought into this cistern by means of a $\frac{1}{2}$ -in. lead pipe from the large tank, and have an automatic ball cock. The water would then stand at a uniform level in the troughs, say 1 in. from the top, which arrangement ensures a constant supply of water without any attention beyond the pumping necessary and seeing that the ball cock is in order.

The water would be brought into the troughs through brass roses with $\frac{1}{8}$ -in. diameter perforations to prevent rubbish getting into the pipes.

The boxes would be provided with small cast-iron troughs, having hinged lids and fixed at the ends of the mangers. These troughs could be filled by hand from the taps near at hand without great labour.

Machinery.

This is usually tenant's property, and it is assumed that in this case the tenant would provide engine, shafting and belting, and all machinery.

Space is provided for a 10 to 12 H.P. oil engine (as being the most suitable), donkey pump to the well, and a dynamo, the latter affording the best means of lighting the homestead. The initial outlay for an electrical installation would be the only cost, as the electricity could mostly be provided when the engine is running for other purposes.

Poultry.

We are strongly of opinion that poultry houses should not in any case be mixed up with the other buildings for live stock, fowls about the latter places being objectionable.

If poultry are to be kept in large numbers they should be housed in portable houses distributed about the farm, as large numbers cannot be kept profitably in one place.

The houses should be constructed of creosoted wood as being cheaper and more suited to fowls than brick or stone buildings, and we have accordingly shown two houses on the block plan constructed of this material, one being for fowls and the other for ducks and geese, and the cost of these is included in the estimate; any further houses required should be portable and be provided by the tenant.

SPECIFICATION.**GENERAL.**

(Such clauses and conditions applicable to the special circumstances of any case, as may be necessary, to be inserted under this heading in any working specification.)

EXCAVATOR.

Surface.—Remove all vegetable matter from whole site of buildings, yards, paved ways, and roads, and dispose of same as directed.

Trenches for Foundations.—Dig trenches for foundations sufficiently deep to secure firm and uniform foundation. When dug, to be well watered and rammed down.

Drain Trenches.—Fill in and ram the earth to footings and dispose of the surplus as directed.

Dig trenches for drains to a uniform fall and cut socket holes for every pipe in the trench, and carefully fill in and ram the earth about the pipes.

Well.—Dig well 5 ft. 3 in. internal diameter by 30 ft. deep, and dispose of earth as directed.

Manure Pit, Tank, and Yards.—Excavate as directed to form yards, manure pit, and tank.

Roads.—Form roads as shown on plans about the buildings, with a bed of hard local materials 6 in. deep and a topping of finer material 2 in. deep, the surface to have a fall of 5 in. in 24 ft. from the buildings on every side.

Sheds.—Level and ram the ground in cart and implement sheds.

BRICKLAYER.

Walls.—Use throughout hard burnt stock bricks from an approved local yard; face the whole of the external walls with selected bricks, and point all exposed faces with a flat struck joint as the work proceeds.

Put to all walls three courses of footings of the several widths shown on the sections, and grout up all foundations from the bottom of the footings to the damp course.

The mortar to be composed of clean sharp sand or boiler ashes mixed with an equal quantity (by measure) of freshly burnt local lime or best Portland cement (as the case may be).

Damp-proof Course.—Lay over the whole of walls above ground level a course of pressed blue Staffordshire bricks bedded in and jointed with neat Portland cement.

Angles.—Build all salient angles in or about the buildings with bull-nose bricks.

Arches.—Turn arches in half brick rings set in cement mortar to openings where shown, and properly cut skew backs, &c., to same.

Copings.—Cope all low walls with selected hard bricks set on edge in cement.

Window Sills.—Put to all sliding windows special made splayed bricks 9 in. by 4 in. by $4\frac{1}{2}$ in. set in cement.

Put to all other windows cant angled bricks set in cement on edge.

Thresholds.—Form thresholds to doorways with pressed blue bricks set on edge in cement.

Air Bricks and Flues.—Build in 9-in. by 3-in. cast-iron air bricks in walls where shown on drawings, and fix one for every cow in the east and west walls of cowshed, 6 in. above the floor level.

Fires.—Build fireplace openings in harness room for 3-ft. 3-in. oven and boiler, set and fix same; build 9-in. by 9-in. flue and parget same. Set the chimney head in cement mortar, using pressed blue plinth bricks as shown, and provide a plain red terra-cotta chimney pot, 2 ft. high, flauched round with cement.

Fix two 40-gallon furnace pans where shown and set same in brickwork, the top being finished with Portland cement, $\frac{1}{2}$ in. thick, chamfered on the edges. Build smoke flues, and fix chimney pots as described above.

Provide 6-in. glazed pipe bends connected to flues to coppers for steam outlets.

Beam filling.—Beam fill over all walls in between feet of spars with brickwork.

Flashings.—Point all lead flashings with cement.

Mangers.—Build mangers for live stock as follows:—For cattle in stalls and boxes with $4\frac{1}{2}$ -in. brickwork each side on a concrete bottom, filled in between with lime concrete, and having 18-in. diameter glazed stoneware channels inside bedded in the concrete: the ends to be formed with fine cement concrete rounded and finished with trowelled face in cement.

For cattle in yards, the mangers to be similar to above, but having 15-in. diameter channels in continuous lengths.

For horses, with $4\frac{1}{2}$ -in. brickwork sides on half-brick arches set in cement mortar, supported on solid brick piers, 14 in. wide between the stalls; fill in over the arches with cement concrete, and fix 18-in. diameter stoneware channels, and form rounded ends to each manger as described above.

Swill Tanks.—Build these with 9-in. brickwork in cement mortar, cope with a blue half round coping set in cement, and render insides with neat Portland cement.

Floors and Pavings.—Under all pavings (except concreted yards) lay a bed of hard broken local materials, 4 in. thick, well wetted and beaten down.

Gangways.—Pave all gangways, passages, and also form the channels up to walls in stables and cowsheds, with selected hard stock bricks set on edge, and grouted with cement grout.

Pave at edge of trolley gangways with special made hard cant bricks set on edge in cement.

Mixing, Engine, and Milk Rooms.—Pave mixing room, milk cooling room, engine room, boiling shed, and trolley gangways with cement granite concrete $2\frac{1}{2}$ in. thick, finished with floated plain face and put down in two layers, as follows: bottom layer $1\frac{1}{2}$ in. thick composed of three parts (by measure) $\frac{1}{4}$ -in. to $\frac{1}{2}$ -in. granite chippings, one part sand to one part best Portland cement, top layer 1 in. thick composed of two parts $\frac{1}{4}$ -in. to $\frac{1}{2}$ -in. granite chippings, half part sand and one part cement, the whole well mixed dry on boards, gently wetted, again mixed, spread and well rolled down, no part to be allowed to dry before being finished off.

Cattle, Calf, and Pig boxes.—Pave all cattle boxes, calf boxes, piggery and hospital with a similar flooring $2\frac{1}{2}$ in. thick, but coved into squares or diamonds and laid to falls.

Cow Stalls—Pave at heel of cows in stalls with a floor as last described but 3 in. thick, put down in two layers of 2 in. and 1 in. thick. Form channels at heel stones 18 in. wide with round sinking at outer edge to convey urine, to fall not less than one in sixty.

Stables, Horse box.—Pave stalls in stables from gangway to mangers and whole of horse box with a similar floor, $3\frac{1}{2}$ in. thick, put down in layers of $2\frac{1}{2}$ in. and 1 in. thick. Form channels at heels of horses, to have a fall of not less than one in sixty.

Clay Paving.—Pave for 3 ft. of cowstalls with well-puddled clay 4 in. thick well beaten down.

Harness Room, Tools, &c.—Pave harness room and tool house with selected hard stock bricks as before described.

Milk Cart Shed.—Pave milk cart shed with asphalt paving $2\frac{1}{2}$ in. thick, well tarred, sanded, and rolled down, and having on the outer edge a blue brick on edge kerb.

Yards.—Pave yards with cement concrete 6 in. thick well rolled down and left with rough face, put down in two layers of 4 in. and 2 in. and composed of five parts $\frac{1}{2}$ -in. to $\frac{1}{4}$ -in. hard local materials (gravel, stone, &c.) one part sand, and one part cement as before.

Manure Pit and Tank.—The manure pit to be constructed with low concrete walls battered one face as shown on the drawings and composed of materials as last described; the floor to be 6 in. thick and to be composed of same material.

The tank to be constructed of 9-in. brickwork built in cement, having a two-ringed arch over and cement concrete bottom 6 in. thick as last described, and rendered all over the inside with Portland cement $\frac{1}{2}$ in. thick.

Drains.—The drains to be constructed with 4-in. and 6-in. best quality glazed stoneware socketed pipes with Portland cement joints; all connections to drains to be over 6-in. glazed stoneware trapped gullies having galvanised iron grates over same. The drainage from the channels in sheds, &c., to be conveyed through the walls by means of a 4-in. glazed stoneware pipe.

An inspection chamber 2 ft. by 2 ft. inside to be provided at point indicated on the Plan constructed with 9-in. brickwork rendered with cement and the bottom formed with a 6-in. open stoneware channel bedded in cement concrete, and the pit closed with a heavy cast-iron airtight manhole cover and frame.

The drains are to be laid throughout with uniform falls, not less in any case than one in sixty. The gullies to have 2-in. blue brick on edge kerbs set in cement all round them.

Well and Water Troughs.—Dry brick line, half brick thick, the well to within 6 ft. of the top and gather in the upper part to 2 ft. 6 in. diameter, this part being built with brick in cement. Build half brick bases to water troughs with bull-nose bricks on outer angles and set in cement mortar.

Ceilings.—Lath plaster and set the ceiling in milk cooling room.

Sundry.—The bricklayer to build in all stonework in cement, to hoist and fix all steelwork, bed and point round all door and window frames, bed wall plates and other timbers, cut away for and make good after all other trades and generally to attend on them as required.

MASON.

General.—The stone to be local or other approved stone selected for hardness and laid on its quarry bed.

Thresholds.—Fix to all door frames threshold stones 14 in. by 6 in. deep and full width of the wall, tooled on the upper face and two sides and mortised for dowels.

Hook, &c., Stones.—Fix to all doors hung to walls hook and catch stones 14 in. by 14 in., 14 in. by 9 in., and 9 in. by 9 in. as required by $6\frac{1}{2}$ in. deep

having rounded corners to match bull-nose angles and rebated where required, and let the ironwork into same and run with lead.

Templates.—Fix under steel joists on north wall tooled templates 6 in. thick tooled as required.

Bases for Columns.—Fix to cast-iron columns in cart and implement sheds round bases 15 in. diameter by 15 in. high rounded all ways with flat top and mortised for two bolts each.

Fix to columns in mixing room bases 18 in. by 18 in. by 10½ in. square, all sides, and mortised for two bolts each.

Guard Stones.—Fix to each side of openings to cart sheds and roots, guard stones, 12 in. by 12 in. by 18 in., rounded three sides.

Heel Stones.—Fix to the cow stalls, tooled heel stones, 9 in. by 3 in., chamfered one edge and in the longest lengths possible.

Steps.—Fix to chaff chamber, tooled steps, 9 in. wide by 6½ in. deep.

Fires.—Fix to harness room fireplace, 2½-in. sawn hearth, 10-in. by 4½-in. stop chamfered frieze, and 7-in. by 2-in. shelf with rounded corners and finely tooled all faces.

Fix to coppers, sawn lintels, 2 ft. 6 in. by 2 ft. 6 in. by 3 in., perforated for steam-pipe.

Well.—Fix 4-in. self-faced flag over well top, 3 ft. by 3 ft., with mortises for two lifting rings.

Pig Feeding Troughs.—Fix to each pigsty, a stone, 15 in. by 18 in. by 3 in., tooled all faces, rounded two edges, corners rounded, and one face slightly dished and set sloping.

Sewage Pump.—Fix to sewage tank, sawn stone, 2 ft. by 2 ft. by 4 in., with perforations for chain and bolts.

SLATER.

Cover the whole of roofs (except yards and manure pit) with best quality blue or purple Welsh slates, 16 in. by 8 in., to a lap of 2¾ in.; each slate or piece of a slate to be secured with two 1½-in. large headed copper nails.

Extra wide slates to be used at all gables, to break joint bedded in hair mortar, and a double course to be fixed at all eaves.

The slating is to be fixed to ¾-in. grooved and tongued boarding nailed to the common rafters over all live stock; elsewhere the slating to be fixed to 1½-in. by ¾-in. red deal laths, and to be full torched with fine hair mortar.

The ridges to be covered with blue capped tile ridges with ventilating ridges every 6 ft. over live stock, all bedded and pointed with cement.

CARPENTER AND JOINER.

General.—The timber generally for carpenters' work to be thirds quality Baltic timber of an approved brand, *selected*, free from sap, shakes, coarse knots and other defects, to be cut die square and of the dimensions specified.

The creosoted timber to be of the same quality, fully creosoted under pressure until at least 8 lb. of oil has been absorbed by each cubic foot of timber, and the whole to be cut, framed, &c., and prepared ready for fixing before creosoting.

The stuff for joiners' work to be "seconds," very dry Petersburg or Archangel, quite free from sap and other defects.

The oak to be of English growth, free from sap.

Roofs.—Fix to all roofs, wall plates, 6 in. by 3 in., 7 in. by 3 in., and 9 in. by 3 in.; 2½-in. by 3½-in., and 2¼-in. by 4-in. common rafters; 5-in. by 1-in. ridge boards; 4½-in. by 1¼-in. tilting fillet to eaves; 7-in. by 1¼-in. wrot. chamfered verge boards having 2-in. by ¾-in. chamfered and splayed fillet to cover ends of laths, &c.

Frame the trusses to the several buildings according to the sizes figured on the sections.

Roofs on Covered Yards.—Frame the trusses in accordance with the Drawings and figured dimensions thereon, and cover the whole with 1-in. by 7-in. boards twice grooved one side and fixed ⅜ in. apart with steel wire nails to

the purlins, each board being supported on all bearings with two hob nails; the top and bottom edges of all boards to be splayed.

Skylights.—Fix 2-in. wrot. skylight casements having 1½-in. double rebated bars and 1½-in. by 7-in. inside casings, hang the casements at the top and fix chains and pulleys for opening same. One skylight, 4 ft. by 6 ft., to be fixed over each side of cowsheds at about 13 ft. 6 in. from mixing room end; one over stable, 4 ft. by 6 ft., and one over the hospital, 3 ft. by 4 ft., outside measurements.

Ventilators.—Fix over centre of each cowshed, calf house, and stable, ventilating louvres as follows:—4-in. by 4½-in. splayed bottom plate bolted to rafters, 4-in. by 4-in. corner posts, 4-in. by 3-in. rails; cover with 1½-in. grooved and tongued boarding on 2-in. by 2-in. firrings, and fix 1½-in. rolls for lead; fix on each end feather-edged boarding, and on all sides above roof 7-in. by 1-in. louver boards hung on pivots at each end; fix 2-in. by 2-in. staves, linked to louver boards with short chain for rope.

Flooring.—Fix 8-in. by 3-in. joists not more than 13 in. apart in the chambers; frame for trap door 3 ft. by 3 ft., and for cake, corn, chaff, and other machinery, and for stairs as shown.

Lay 1½-in. white spruce grooved and tongued flooring nailed to joists and all nails clenched.

The trap door to be framed of 1½-in. floor boards bolted to 1½-in. ledges, chamfered on the edges.

Stairs.—Fix a step ladder from stables 12 ft. long over all by 2 ft. 6 in. wide, having 9-in. by 1½-in. sides chamfered on the edges, and No. 12 treads 7 in. by 1½ in. housed to sides.

Fix round each wellhole in the floor 2-in. by 3½-in. rails chamfered on the edges and mortised to 3-in. by 3-in. newel posts halved and bolted to the joists, there to be two rails in height.

Granary and Chaff Divisions.—Form these with 1-in. white spruce butt jointed boarding on 2½-in. by 3½-in. rails chamfered on the edges, and mortised to 3-in. by 4-in. posts halved to joists. The divisions to horse and cow chaff to go up to floor of chamber and have a hinged flap under chaff cutter. The other divisions to be 4 ft. high.

Mangers and Hayracks.—Provide for brick mangers, bond or capping 4½ in. by 3 in. to all cow mangers, 5½ in. by 3 in. to stable mangers, chamfered on two edges and with dovetailed halvings at all cross pieces.

Fix hayracks to mangers in boxes and covered yards as follows:—3-in. by 3-in. posts halved and bolted to the principals, 3-in. by 4-in. rails, 7-in. by 2½-in. bottom piece, ½-in. boarding, 1½-in. round staves, 2 ft. 6 in. long, stumped in at ends 3 in. apart.

Fix hayracks to mangers in stables as follows:—4½-in. by 3-in. top rail, 5½-in. by 3-in. bottom rail, splayed one side, and 1½-in. round staves as before.

Fix hayracks in calf boxes as follows:—3½-in. by 3-in. rails, 6-in. by 3-in. bottom piece, and 1-in. round staves.

Stall Divisions.—Fix divisions to stalls and boxes as follows:—In stable, oak posts 7 ft. 6 in. long by 5 in. by 6 in., chamfered on edges, 2½-in. by 3½-in. rails chamfered on exposed edges, 1½-in. white spruce boarding to extend to top of division on one side and to middle rail on other side; the top to be finished with 5½-in. by 1½-in. chamfered cap.

In cowsheds, oak posts 5 ft. by 4 in. by 4½ in. at heels, and 4-in. by 3-in. posts at head, 2½-in. by 3½-in. rails chamfered on all edges, 1-in. white spruce boarding, and 11-in. by 1½-in. board fixed between posts at back of mangers on 3-in. brackets nailed to posts.

For calf boxes, oak posts 5 ft. 6 in. by 4½ in. by 4½ in. fixed in cast-iron sockets; 3-in. by 3½-in. rails; 1-in. white spruce boarding, and 1-in. creosoted ledged doors.

In yards, 4-in. by 6-in. creosoted posts, 2½-in. by 3½-in. creosoted rails, ¾-in. creosoted boardings, creosoted gates. The large gates in the yards to be hung

to posts 8 ft. by 10 in. by 10 in., having two sets of hooks in them for raising the gates as required.

Windows.—Fix in calf house, east and west walls of cowshed, and east wall of stable, 2-in. sliding casements provided with rollers and fixed between 2½-in. by 3-in. rebated and chamfered guides.

Fix in stable, horse box, boxes near calves, and hospital, casement windows with 2-in. casements hung at bottom, to open inwards, with 4½-in. by 3-in. rebated and chamfered frames with oak weathered sills.

Doors.—Fix to all doorways where there are no live stock passing through (except where otherwise specified), ¾-in. and 1-in. ledged and braced doors; all doors under 3 ft. by 3 ft. to be ¾ in., and over to be 1 in. thick. The doors between cowshed and mixing room to have hit and miss slide shutter in bottom part.

Fix to all cowsheds, boxes, and hospital, 2-in. framed ledged and braced doors cut at 4 ft. high and hung in two parts.

Fix to engine room a 2-in. framed ledged door with stiles and bars in upper part prepared for glass.

Fix to mixing room a 2½-in. framed and braced ledged door 8 ft. wide by 7 ft. high, on steel rollers at bottom, and fix over same 9-in. by 11-in. wrot. beam with rebated and chamfered guide bolted to it.

Fix to entrances of covered yards and bull yard, 2-in. framed ledged and braced doors, as before hung to oak posts, 9 in. by 9 in. by 8 ft. 6 in. long, those to covered yards being 9 ft. 3 in. wide, hung as a pair.

Fix to engine room and inner door to milk cooling room, 5½-in. by 3½-in. rebated and chamfered frames having beaded centres 3 in. by 5½ in.

Sundry.—Fix over all slide windows and wood casement windows, two outer doors in chaff chamber, 3-in. by 9-in. lintels wrot. three faces.

Fix sixteen wrot.-shaped harness pegs, 2 in. by 3½ in. by 18 in. long, in harness room, and sixteen ditto, but 21 in. long, in stable.

Fences.—Fix across piggery yard fencing as follows:—two oak posts, 8 ft. by 9 in. by 9 in., paled gate, 9 ft. wide by 4 ft. high, 3½-in. by 2-in. rails, and 3-in. by ¾-in. pointed pales, 3 in. apart up to the building on each side of gateway.

Fix a similar fence across open yard in front of hospital.

Tank Cover.—Provide for water tank ¾-in. ledged cover, 9 ft. by 7 ft., in two parts, having three ledges 7 in. by 1½ in. chamfered on edges, screwed to ¾-in. grooved and tongued boarding.

Closet Seat.—Fix in closet 1-in. clean deal nosed and perforated seat on strong bearers.

SMITH AND IRONMONGER.

Cast Iron as follows:—

Columns.—Fix to implement shed, cart shed and mixing room, cast-iron columns 5 in. external diameter by ¾-in. metal, with caps 1½ in. thick with lips on side to fit flange of steel joists, and bases 10 in. diam. by 1½ in., with two holes rimed out for ¾-in. bolts.

Chairs.—Provide chairs for securing eaves beam on manure pit to steel stanchions of 1-in. metal rimed out for three bolts each.

Hoppers for Windows.—Provide hoppers for casement windows, 2-ft. 6-in. by 9-in. by ½-in. metal, and screw holes in same.

Shoes for Door Frames.—Provide shoes 5½ in. by 3½ in. by 4 in. deep for door frames, and having on under side a dowel for letting into stone.

Sockets for Posts.—Provide sockets 18 in. by 5 in. by 5 in. for wood posts, with a flange 3 in. wide all round at one end.

Mangers.—Provide two horse mangers 4 ft. long by 15 in. wide, with rolled edges and ears cast on for fixing to walls.

Windows.—Provide 1½-in. windows in stock sizes, with plain chamfered frames and bars as shown on the drawings, part of the windows to have a

portion to open as indicated on the elevations, hung on centres and with eyes for cords.

Eaves Gutter.—Provide for all eaves about the covered yards 6-in. deep half-round eaves gutters, and to all others 5-in. ditto, socketed and bolted joints, and provided with all necessary stopped ends, angles, and nozzles.

Rainwater Pipes.—Fix to all eaves gutters on the buildings, 3-in., and to the manure pit 2½-in. round rainwater pipes with ears cast on, provided with necessary swan-necks, bends, offsets and shoes, and fix large plain heads where shown on the elevations.

Wrot. Iron :—

Eaves Gutter Brackets.—Provide for all eaves gutters, iron brackets 18 in. by ½ in. by ½ in. shaped to gutter, flattened one end, punched, and provided with two screws for fixing.

Roof Straps and Bolts, &c.—Provide for all roofs, partitions, mangers, floors, &c., straps, bolts, rods, &c., as indicated on the drawings, roughly finished.

Doors.—Provide for door ironwork as follows :—For external cowshed, box and hospital doors, bands full width of the door, one-fourth 2 in. by ⅝ in., and remainder 1½ in. by ¼ in., bolted to doors with ⅝-in. diameter bolts ; hooks of 1-in. square metal, split shanks and claws at end, and ¾-in. diameter pivots welded solid ; latches 10 in. by 1¼ in. by ¼ in. on plates 3 in. by 3 in. by ¼ in. bolted to doors, with carry latches 1½ in. by ¼ in. bolted to doors and catches with wing guards on, of ½-in. square metal and split shanks with claws at ends as before, and strong S handles ; fix strong hasps bolted to doors, and hooks bolted through walls for holding doors open.

Fix to all ledged doors over 2 ft. 6 in. wide, bands as above, 2 in. by ¼ in. and 1¼ in. by ¼ in., hooks of ¾-in. square metal having ⅝-in. diameter pivots, latches 8 in. by 1¼ in. by ¼ in., carry latches, catches, and hooks and hasps as before.

Fix to all small doors in chaff chamber and for putting manure out, bands 1¼ in. by ¼ in., hooks of ½-in. square metal having ½-in. pivots and strong hooks and hasps as before.

Fix to yard doors, bands, one-fourth 2½ in. by ¾ in., and remainder 1½ in. by ¼ in., bolted as before, and 10-in. by 1½-in. by ¼-in. latches, catches with wings, guards bolted through door or posts as the case may require, hooks ¾-in. square metal, shouldered and bolted through posts or for letting into stones, having 1-in. diameter pivots and strong hooks and hasps as before.

Gates.—Fix to all gates, bands at least 3 ft. long, one-fourth 2½ in. by ⅝ in., and remainder 1½ in. by ¼ in., bolted with ⅝-in. bolts as before, and hooks of 1-in. square metal, shouldered and bolted through posts with 3-in. by 3-in. by ¼-in. shoulder plates each side, the gates in covered yards to be provided with two sets of hooks for raising the gates as required, and fix strong hooks and hasps as before.

Ventilators.—Provide chains 3 ft. long with ½ in. links by ½ in. metal, with plate at one end and ring at other for ventilators (four to each ventilator).

Steelwork :—

Joists.—Provide the following rolled steel joists :—

For over cart shed, two joists 32 ft. long by 12 in. by 5 in. by 32 lb. per foot, and one 31 ft. long by 15 in. by 5 in. by 42 lb. per foot.

For over mixing room, three joists, each 25 ft. long by 15 in. by 5 in. by 42 lb. per foot, jointed together with 18-in. by 12-in. by ¾-in. fish plates.

For over roots, two joists 11 ft. long by 9 in. by 4 in. by 21 lb. per foot.

For over milk cart shed, two joists 16-ft. long by 10-in. by 5 in. by 30 lb. per foot.

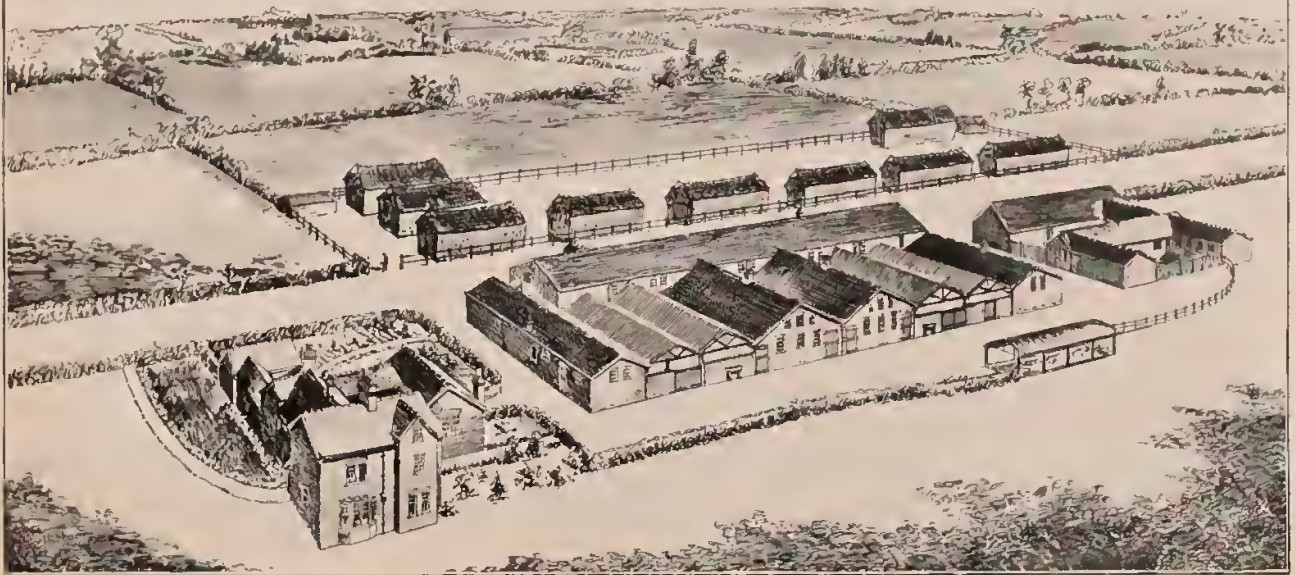
For over south side of chaff chamber, three joists 6 in. by 3 in. by 12 lb. per foot in lengths to suit openings over cow boxes, and not less than 18 ft. long, so as to span two boxes in one length.

For water tank, three joists 12 ft. long by 8 in. by 4 in. by 18 lb. per foot.

BIRD'S-EYE VIEW

OF HOMESTEAD BY

"USUS"



WEST ELEVATION



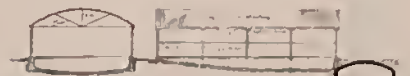
EAST ELEVATION



SECTIONAL ELEVATION - WEST ELEVATION



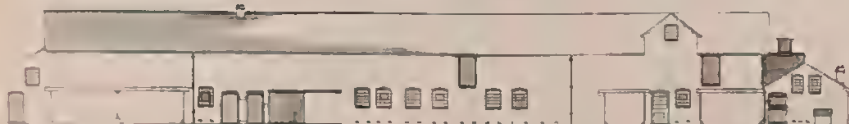
SECTIONAL ELEVATION - EAST ELEVATION



SECTIONAL ELEVATION - NORTH ELEVATION



NORTH ELEVATION



SOUTH ELEVATION



SOUTH ELEVATION

HOMESTEAD

FOR
MIXED FARM OF 575 ACRES
SPECIALLY FOR SALE OF MILK AND
PAIDING, HYPODROME TO NEWARK, N.J.
LEADS AT ABOUT FOURTH CAY



PLAN
OF THE
HOUSE

BY
USUS

For lintels over windows in north wall of buildings, 3-in. by 3-in. joists $8\frac{1}{2}$ lb. per foot, in lengths as long as can be got in.

For manure pit, ten joists 11 ft. by 5 in. by $4\frac{1}{2}$ in. by 18 lb. per foot, with holes drilled as required for bolting timbers to them.

Galvanised Iron :—

Provide for bond on horse mangers $\frac{3}{4}$ -in. hoop iron punched for nails every 6 in.

Calf Troughs.—Provide five calf troughs 8 ft. long by 12 in. wide and 8 in. deep, 20 gauge metal with tabs riveted on for fixing to partitions.

Sundry :—

Coppers.—Provide two 40-gallon rustless furnace pans and cast-iron works.

Firegrate.—Provide for harness room a 3-ft. 3-in. oven and boiler set without coves.

Hayracks.—Provide for horse box and hospital two flat hayracks.

Hinges, &c.—Provide all necessary butt hinges for skylights, casements, &c., and chains and pulleys for skylights, and pivots on plates screwed to louver boards.

Water Tanks and Troughs.—Provide and fix 16 ft. above ground an open top cistern 9 ft. by 7 ft. by 5 ft. 6 in. outside measurement over rivet heads, with angle iron and cover plate at top made of $\frac{3}{16}$ -in. plate with 2-in. by 2-in. by $\frac{1}{4}$ -in. angle iron and stayed with six $\frac{7}{8}$ -in. rounded iron stays (painted), with a 2-in. iron overflow pipe, wood float and indicator fixed in engine room showing the depth of water in the tank, and two holes drilled for $\frac{1}{2}$ -in. pipes.

Provide galvanised iron tank 2 ft. 6 in. by 2 ft. by 1 ft. 6 in. without top and including one hole drilled for $\frac{3}{4}$ -in. pipe and one for $\frac{1}{2}$ -in. pipe.

Provide five galvanised iron water troughs 4 ft. by 2 ft. by 1 ft. 3 in. with rolled edge and including hole drilled for $\frac{3}{4}$ -in. pipe.

Provide twelve cast-iron water troughs 15 in. by 13 in. by $12\frac{1}{2}$ in. with hinged lids.

Pump.—Provide and fix complete a $3\frac{1}{2}$ -in. diam. wheel and chain pump fixed on a stone to liquid manure tank.

Manure Pit Roof.—Cover the manure pit with galvanised corrugated iron sheeting 22 gauge secured with bolts to 2-in. by 2-in. angle iron principals as shown in the section, having 2-in. by 2-in. angle iron rafters and struts, $\frac{5}{8}$ -in. tie rods, and fixed to iron shoes bolted to steel stanchions of 5-in. by $4\frac{1}{2}$ -in. H iron joists 11 ft. long. There to be five principals in all.

PLUMBER AND GLAZIER.

Valleys, Gutters, and Flats.—Lay over these 5-lb. milled lead, copper nailed where required, and dressed over drip or round rolls where necessary, forming proper over cloaks.

Flashings.—Fix at junction of all sloping roofs with walls, strong zinc soakers and 5-lb. lead stepped flashing secured by raking out joints of brickwork $\frac{3}{4}$ in. deep, turning lead in and wedging with lead wedges.

Fix where required, aprons 12 in. wide of 5-lb. lead secured as above described or by copper nailing.

Glazing.—Glaze the skylights with $\frac{1}{8}$ -in. rough plate, secured with best quality putty and copper sprigs.

Glaze all windows and engine room door with 21-oz. thirds sheet glass, secured with best quality putty.

Water Service.—Lay $\frac{1}{2}$ -in. drawn lead piping, to weigh 7 lb. per yard run, from the supply tank in chamber through the mixing room round to the boiling house and take off branches to all points marked on the plans. The piping to be laid in trenches outside the building not less than 2 ft. deep, and fixed elsewhere with galvanised iron clips.

All joints to be wiped.

The connections to tank to be made with a brass union.

Fix $\frac{1}{2}$ -in. brass quarter-turn bib cocks at the points marked, and a brass screw down stop cock next the tank with brass eye and screw cap for admission of air to the pipes for emptying.

Lay $\frac{1}{2}$ -in. pipe as above from tank to a second small cistern under chamber steps with stop cock, &c., as before.

Fix to the small cistern an equilibrium ball valve with copper ball and connected to lead pipe with brass union, &c.

From the small cistern lay a $\frac{3}{4}$ -in. drawn lead water pipe (to weigh 11 lb. per yard) under the ground to the water troughs at the points shown on the plan, each branch to be connected with the troughs by means of a brass long-screw and two nuts and be provided with a brass rose, 3 in. diameter, having $\frac{1}{16}$ in. perforations.

Take a $\frac{1}{2}$ -in. branch off this $\frac{3}{4}$ -in. pipe to nag stable and fix $\frac{1}{2}$ -in. quarter-turn brass bib cock as before.

PAINTER.

The materials throughout to be the best of their respective kinds, genuine white lead to be the basis of all paint, and no other to be used. The work to be well brushed or rubbed down between each coat.

Knot and prime before fixing, and stop and paint two coats in plain colours all wrot. external woodwork and insides of all doors and windows.

Paint all iron spouts inside and out, and pipes two coats before fixing and one coat after fixing.

Paint all steel joists three coats before fixing.

ESTIMATE

prepared in accordance with Bill of Quantities and Schedule of Prices, which latter has been based on average current prices for the best quality of the work of the same kind; and where there has been any doubt as to the cost of special materials, quotations for same have been obtained from manufacturers. No attempt has been made to cut the prices down to rates unremunerative to a builder.

	£	s.	d.
Buildings (exclusive of water supply)	2,450	4	11
Water supply (all trades)	89	1	5
Fences and Roads	75	0	0
Total estimated cost	<u>£2,614</u>	<u>6</u>	<u>4</u>

“CONVALESCENT.”—Fourth Prize.

REPORT

on Farm Buildings for a Farm of 400 acres.

In submitting these Plans you will notice the crew yards are planned so as to face due south, with four small crew yards to accommodate ten beasts.

The cow stable range is in the centre of the block, and in close proximity to the house, with accommodation for twenty-four cows, eight calves, and two calving boxes, whilst one of the covered yards will at any time accommodate the in-calvers.

On the north is placed the barn, waggon shed, and other implement places as shown, to give shelter to the yards, with the corn granary over.

In the centre is the engine house, with a through passage 8 ft. wide from the stores and stackyard to the whole of the stock.

The infirmary box has been placed between a cart and waggon shed, and quite isolated from any other stock.

The nag stables are placed conveniently for the house, with accommodation for two regular horses, with a spare stall or box.

The drainage I purpose taking as shown on block plan with gullies at the head of every drain through inspection chamber to a large septic tank, and to dispose of the effluent in natural sewer in field, or carry through land drains to the nearest outfall.

There is every convenience for manure being taken from the enclosed places, and it can be carted away with a pony and proper cart to a place to be provided at the north side of the stackyard.

The water supply is supposed to be taken from a bore down into the rock by inserting a 2½-in. bore pipe and putting down same 10 ft. below the natural flow in same. A 1½-in. suction pipe from the pump with rising main of similar capacity to deliver up into tank house, where tanks are estimated to be placed to hold at least 2,000 gallons.

It is also estimated by cube measurement that the dwelling house (for a 400 acre farm) should cost, including the dairy, which should have its walls lined to a height of 4 ft. in seconds glazed white bricks, a sum of six hundred pounds (600*l.*).

In my district it is general for the tenant farmer to provide portable wood chicken places and poultry houses, hence it will be noted nothing of these are shown on the Plans.

SPECIFICATION AND ESTIMATE.

Bricks to be sound, hard, square, and well burnt, from an approved yard, selected of good red colour for all outside facings.

The window arches to be seconds red stock bricks.

Bond to be English bond, every fourth course being true headers.

The estimate must include for providing all materials. The carting of same, labour, tools, scaffolding, ladders, and every other matter and utensil required for the due performance of the whole of the works.

All provisional sums (p.c.'s.) are nett prime cost values to be expended solely at the discretion of the Agents and deducted in whole or part as the case may be.

Mortar.—The mortar to be composed of one part of dog kennel fresh burnt lime to two-and-a-half parts of clean sharp sand, free from vegetable loam.

Cement.—To be good Portland cement from an approved firm.

Slates.—The slates used must be the best Dinorwic, to have double courses at the eaves, laid to a lap of not less than 3 inches, on good red fir laths.

Drainage.—All internal drains to have surface channels delivering over Sharp's gullies through the respective walls where shown and carried in best sanitary pipes to the nearest manhole, the last manhole having a patent 6-in. intercepting trap fixed therein.

Cows, Calves and Horses.—All the mangers and internal water troughs to be salt glazed, built to the proper levels as directed with salt glazed bricks in cement.

Water.—It is intended to get a supply of water from a bore to be made near the engine house and pump up into large galvanised iron tanks at a level where shown which will give a good pressure and supply the house and the whole of the troughs to buildings through a 1½ in. galvanised iron pipe with all necessary ball valves required.

Carpenter.—The whole of the timber used must be of an approved brand from the Baltic ports and be practically free from sap, shakes, loose or dead knots and other defects, and be well seasoned before being used.

The covered yards, fences, and division timbers to be creosoted where practical, and the other parts to have two coats of carbolineum or other approved wood preservative.

Painter.—Where paint is specified to be used it must be mixed from the best white lead and linseed oil with an admixture of turps and driers.

NAG STABLE AND PIGGERY RANGE.

Level and make up and ram to receive concrete.

Excavate trenches for foundations.

9-in. brickwork laid in mortar, pointed on both sides, the external face being black marked (all openings deducted).

9-in. brickwork to feed walls to piggeries.

9-in. by 3-in. wrot. and rounded capping bolted down to walls and covered with carbolineum.

Four bolts 24 in. long.

Seven extra cost to 4-in. double rim arches over iron windows.

Six extra cost to 4-in. relieving arches over door openings.

Extra cost only to bull-nose bricks in jambs and angles.

Concrete to piggery floors 4 in. thick, composed of four parts slag screenings to one part best Portland cement laid on, and include a bed of broken bricks or clinker ashes, the whole being grooved out in small deep squares.

Provide and lay next walls, 9-in. Staffordshire channels to deliver through walls over gullies as shown.

Concrete all as before described, but finished smooth to boiling place, feed passages, carriage house, and harness room on bed of broken bricks and clinker ashes.

Flooring to nag stable, passage, and box in Skier Spring bricks, 9 in. by 4½ in., grooved in six or eight squares, laid and grouted in cement on a bed of concrete composed of six parts broken bricks, stone, and gravel to one part best Portland cement.

Extra cost 12-in. channel.

Form two chimney stacks to harness room and boiling house.

Chimney pots to harness room and boiling house.

Provide and set in brickwork, 30- and 20-gallon furnace pans respectively, with all necessary doors, grates, &c., complete.

Provide grate and boiler for harness room with iron mantel complete.

9-in. by 4½-in. by 3-in. blue Staffordshire bricks laid on edge in cement between door jamb stones to form steps.

Fourteen stone templates built in wall to receive iron dowels of door jambs.

Cement concrete laid to a regular fall, and grooved out in small squares to wash place on a bed of broken brick.

Three coats plaster to ceiling of nag stable, harness room, box and carriage house.

Best 18-in. by 9-in. Portmadoc slating on 1½-in. by ¾-in. red for laths, torched on the inside with hair mortar, with the exception of piggeries and boiling house.

Blue-capped Staffordshire ridge tiles.

Extra cost of ventilating ridges over stalls, box, piggery, and boiling house.

Salt glazed mangers to stalls fixed in walls and having brick in cement piers formed in the centre to carry same.

Provide a bolt with ring and fix through manger and back wall with 6-in. cast-iron tie plate and nut on the outside.

Corner manger to box fixed complete with bolts through wall.

Twelve iron stable hit and miss windows 3 ft. by 2 ft. 6 in. having three-square Hartley's ¼-plate glass fixed in same.

7-in. by 3-in. York stone window sills to same, tooled weathered and throated.

Flash junction of roof with barn wall, and form short valleys at junction of roofs.

Salt glazed pig troughs in different sizes fixed as directed and where shown.

Perforated gratings in ceilings over stall divisions and box with 10-in. air shafts and Walker's patent exhaust ventilator. Fix in roof where directed.

Roof with king post principals having 3-in. by 9-in. tie beams, 3-in. by 9-in. king-posts, 3-in. by 6-in. principal rafters, 3-in. by 4-in. struts, 3-in. by 7-in.

purlins, 3-in. by 4-in. plates and cross ties, 2-in. by 4-in. spars, the ridge being made hollow by forming it with two pieces $\frac{3}{4}$ in. by 6 in. blocked out with a fillet 2 in. by $1\frac{1}{2}$ in. where each spar abuts on same to give ventilation through the patent ridge tiles fixed on the slating.

$4\frac{1}{2}$ -in. by 3-in. cast-iron eaves gutter No. 3 section with straight back securely screwed to fascia and joints screwed together and made perfectly water-tight with white lead and putty, painted three coats on the outside and tarred on the inside.

Four outlet sockets.

Four stop ends.

3-in. fall pipe painted as above.

Four shoes to 3-in. pipe.

Brestsummer over carriage house opening 7 in. by 9 in., wrot. on front and soffit.

$4\frac{1}{2}$ -in. by 4-in. wrot. and rounded door jambs to stables, piggeries, and boiling house, framed into lintels built into walls.

7-in. by 9-in. wrot. on sides and soffit lintels and build in over door openings.

$1\frac{3}{4}$ -in. framed and braced doors hung to above jambs in No. 6.

Six pairs, bands, and hooks.

Rim lock.

Two stable latches.

Two thumb latches.

Four tower bolts.

Two stock locks.

$1\frac{1}{4}$ -in. by 6-in. beaded fascia.

$\frac{7}{8}$ -in. red grooved and tongued match boarding to walls of harness room, fixed on 1-in. by 2-in. battens securely plugged to walls and give same two coats carbolineum of a rich oak tint.

Stall division in nag stable with $6\frac{1}{2}$ -in. by $6\frac{1}{2}$ -in. oak or pitch pine post, fitted on with $1\frac{1}{4}$ -in. grooved and tongued boarding, wrot. and rounded rails and capping and give two coats of carbolineum as before.

Two collar brackets, provide and fix in harness room.

Two single harness pads.

Telescopic cleaning bracket.

Two rein holders.

Riding bridle bracket.

Paint six doors four coats in oil.

Brestsummer over doors four coats in oil.

Door jambs four coats in oil.

CART HORSE STABLE RANGE.

Level over site and ram to receive concrete.

Excavate trenches for foundations.

9-in. brickwork, all as before described.

9-in. brickwork, all as before described, in gables.

Asphalte dampcourse, 9 in. wide.

Extra cost only to bull-nose bricks in jambs and angles.

4-in. cement concrete as before to gears and corn place.

Skier spring grooved stable bricks in two squares on a bed of concrete as before described to nag stable.

• Extra cost of 12-in. channel bricks.

9-in. by $4\frac{1}{2}$ -in. by 3-in. blue Staffordshire brick on edge in steps to door openings.

3-in. by 7-in. York stone window sills; sunk, weathered, and throated to detail.

Best Dinorwic slating as before.

Blue Staffordshire capped ridge tiles.

Extra cost of patent ventilating ridge tiles to fit others.

Salt glazed sanitary strong cart horse mangers let in walls at each end, and having 18-in. stock brick piers with nosed end pillars to support the troughs on the underside, with

Four bolts and rings fixed through the manger and back wall and bolted with 6-in. cast iron tie plate and nuts.

Six lit and miss slide iron windows with three squares Hartley's plate glass in each.

Flash roof where it abuts on invalid box wall.

Roof with-king post principals, all as before described to nag stable and piggery range.

4½-in. by 3-in. cast-iron eaves gutter.

Four outlet sockets.

Four stop ends.

3-in. fall pipe.

Four shoes to deliver over gullies.

10-in. by 9-in. brestsummer over cart house openings, wrot. on face and soffit.

6-in. by 1¼-in. beaded fascia to eaves.

Two coats carbolineum on fascia.

Paint three coats iron eaves gutter.

7-in. by 9-in. lintel or head over doorways.

4-in. by 4½-in. jambs to doors.

1½-in. framed and braced doors to cart horse stables, made in two heights, and hung to jambs with bands and hooks.

Four pairs strong bands and hooks.

Two hasp and staple fastenings.

Two f stable latches and catches.

1½-in. framed and braced doors to gears and manure way to crew yard, made to slide on the inside in passage.

Two sets sliding irons for same and fix.

Two long hasps and staples to secure outer door.

Purpose-made fastener, made to receive padlock to gears.

Fenders, to prevent carts backing into wall.

Eight short posts for same.

4-in. by 3-in. bond, built in wall and bored to receive iron gear pegs.

6-in. oak post to receive gear rails.

6-in. by 4-in. wrot. top rail.

6-in. by 3-in. wrot. intermediate top rail.

Give two coats carbolineum to above three items.

Provide and fix in bond in wall sixteen 1¼-in. wrot. iron gear pegs, average 15 in. long.

Provide and fix five double pegs of a similar strength in centre division.

Paint four doors four coats in oil.

Black four pairs bands and hooks.

Two sets patent sliding irons and fastenings.

Two cast-iron columns to cart shed.

Two templates, 9 in. by 4 in., moulded at ends.

BARN AND GRANARY RANGE.

Excavate trenches for foundations.

Level ground and ram to receive floors.

14-in. brickwork in walls where shown.

9-in. brickwork in walls where shown.

Asphalte dampcourse.

Concrete to floor of barn as before described.

Concrete finished smooth on face to floors of barn, roots, part mixing floor and chaff places.

Break and well ram in 6-in. chalk, and afterwards fill in the interstices with ashes and small gravel, having a gallon of tar poured out to every three yards super. of work, and well roll same at completion.

Blue brick on edge gangway in centre of mixing place.

Concrete floor to infirmary laid on bed of broken chalk or bricks, and grooved out in squares similar in every respect to those of piggery.

Extra cost to channel being formed next each side outer wall.

Dinorwic slating to roofs over invalid box, waggon shed, barn, and tools and implement shed, including cutting to hips, &c.

Blue Staffordshire ridge tiles in cement.

Extra cost of ventilating ridges to invalid box.

Flash roofs where they abut on walls.

Dinorwic slating as before over corn and straw granaries.

Blue Staffordshire capped ridge tiles.

Twelve hip irons made to hips.

Dinorwic slating to roof over water tanks and cake and meal store.

Blue Staffordshire capped ridge tiles.

Wrot. iron weather-cock.

5-in. O.G. spouting to eaves painted three coats.

Twelve external angles to hip ends.

Eight outlet sockets.

3-in. fall pipes.

Seven shoes to 3-in. pipe.

1½-in. by 6-in. beaded fascia board.

Roofing to the whole range with king-post principals, 9-in. by 4-in. tie beams, 6-in. by 3-in. principal rafters, 1½-in. by 6-in. ridge, 3-in. by 4-in. struts, 3-in. by 9-in. king-posts, 3-in. by 7-in. purlins, 3-in. by 4-in. plates, and 2-in. by 4-in. spars, 11-in. by 2-in. hip rafters.

Two cast-iron columns to waggon shed, weighing 3 cwt. each.

Thirty-two moulded pads for same.

14-in. by 14-in. breastsummer to waggon shed.

Drill, covered way, roots, reaper, barn and tool shed openings wrot. on face and soffit.

Pitch-hole door to barn 4 ft. square inside measure.

9-in. by 7-in. beam over door of invalid box wrot. on face and soffit.

4½-in. by 4-in. wrot. and rounded jambs to door.

1½-in. door made in two heights.

Two sets bands and hooks.

1½-in. doors to front of range, made to slide in No. 7.

Seven sets sliding irons.

Four long hasps and staples.

Seven eye-bolts to fix through walls.

Seven knuckle fasteners to receive padlocks.

Door and frame to engine room, 1-in. batten door hung with small bands and hooks and fastened with good dead-lock.

Staircase having 1½-in. treads, 1½-in. risers, 2½-in. outer string between 6-in. Newell's and 2-in. floor string next the wall, rounded handrail fix directly over the outer string.

Granary floors formed of 3-in. by 9-in. joists not exceeding 12 in. apart and covered with 1½-in. tongued and grooved floor boards securely nailed down to joists.

8-in. by 4½-in. steel girder fixed in walls in centre and under the granary floor joists.

10-in. by 6-in. wrot. steel girder under landing floor of cake place.

6-in. by 5-in. wrot. steel girder to stiffen floor joists of cake place.

Floor to tank house formed of 7-in. by 3-in. joists on wrot. steel girders and wall carried up over engine house.

Fix beam over trap-door shown on landing near cake house to allow patent pulley to be fixed at any time for loading and unloading grain.

Ladder 12 ft. long from landing to tank house floor.

Form trap-door in landing where shown.

Seven iron windows (partly glazed with Hartley's rough plate) in granary walls where shown.

Seven hit and miss iron windows fixed where shown to infirmiry box, chaff place, &c., with glazed lights at top as before.

Paint thirteen windows three coats.

Thirteen double rim arches over windows 3 ft. wide.

Thirteen York stone sunk, weathared and throated window sills 3 ft. long.

Pitch-hole door in side wall of oat and straw granary, not less than 4 ft. 6 in. square, with 1-in. ledged and braced door, hung with bands and hooks and fastened on the inside with hasp and staple.

Paint two pitch-hole doors.

Paint infirmiry door.

Eight slide doors to north front.

Engine house door and frame.

COW PLACE RANGE.

Level, spread, and ram, to receive concrete in floors.

Excavate trenches for foundations.

9-in. brickwork in walls and gables laid in mortar and pointed as before.

Asphalte dampcourse.

2½-in. by 4½-in. by 9 in. skier spring paving bricks in six squares on 4-in. rough concrete to proper falls.

Extra cost to 12-in. channels laid in cement.

Salt glazed sanitary cow mangers as per detail p.c. with cap on feed wall.

Eight stall divisions having 6-in. posts for hay-racks, and 5-in. steel posts fixed, leaving all as shown on detail.

9-in. salt glazed mangers set in brickwork in cement with wrot. and rounded cap rail on back wall, all to detail.

Seven stall divisions to calf places.

Seven small doors to same hung with bands and hooks and fastened with purpose-made latches.

Salt glazed manger to cow boxes built up in brickwork in cement with wrot. and rounded cap bolted down.

Boarded division to cow boxes with 4-in. by 4-in. posts, 2½-in. by 6-in. rails, and 1-in. tongued and grooved boarding.

Extra for forming lattice doors to same.

Best Dinorwic slating in roof, all as before described.

Blue Staffordshire capped ridge tiles.

Extra cost of patent ventilating ridge tiles.

Eighteen iron slide windows glazed and painted complete as before described.

Eighteen window sills in York stone.

Extra cost of double rim arches.

Blue brick on edge steps to door openings.

King-post roofing with timbers of same dimensions as specified to granary roofs.

1½-in. slide doors to openings.

Four sets sliding irons to openings.

Weathered hood over irons.

Louvre oval window in front gable.

COVERED YARDS AND FENCES.

Level and form crew yards and bank up next the door openings of buildings with chalk.

Five-rail fence at back of covered yards.

9-in. brickwork to front of yards laid and pointed as before described.

Blue Staffordshire coping.



PLANS OF FARM BUILDINGS.

BIRDS - EYE VIEW.

MAY 1908.



"CONVALESCENT."

— PLANS OF FARM BUILDINGS —

— ELEVATIONS AND SECTIONS, MAY 1908. —

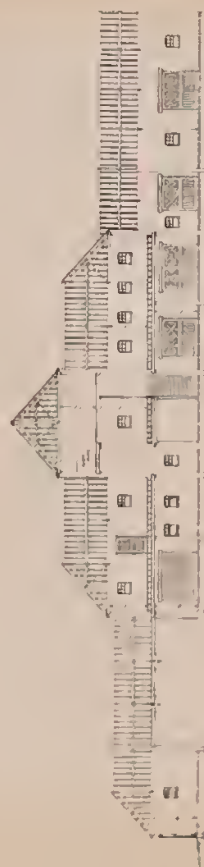
— SCALE 0 0 TO AN INCH. —



— EAST ELEVATION —



— WEST ELEVATION —



— SECTION A-A —



— SECTION B-B —

"CONVALESCENT."

Creosoted five-rail division fences between yards with half-round oak posts and 6-in. by 2½-in. rails bolted to same.

Covered yards with lattice segmental curved principals covered with 1-in. grooved boards fixed on purlins having studs on same, the ends being bonded and all properly creosoted.

Cattle troughs fixed on posts on purpose-made irons, the posts being bored to allow the irons to be regulated in height as the manure in yard rises; all covered with carbolineum.

Four large front gates hung to 10-in. by 10-in. oak posts with wrot. iron vartwells and hooks and fastened with purpose-made spring fastener.

Four gates painted three coats.

DRAINAGE.

The sanitary pipes to be of the best quality, laid in straight cut trenches and joints made watertight in cement.

4-in. best glazed sanitary pipes, including all bends, junctions, &c., as shown on block plan.

6-in. best glazed sanitary pipes, including junctions and bends.

Three inspection chambers in 9-in. brickwork in cement, with proper half pipes fixed in same, and sides flaunches up in cement, covered with 2½-in. self-faced flags.

Fix in manhole nearest the septic tank a 6-in. intercepting trap.

Form where shown on block plan a septic tank with receiving chamber and large filtering bed with outlet, the effluent either running into sewer or carried through a system of land drains in field adjoining the stackyard, as the case may be.

Sixteen No. 3 Sharpe's gullies.

WATER SUPPLY.

Allow for bore in stackyard near engine house.

Oil engine and pump.

Four galvanised iron tanks with a capacity of 500 gallons each in tank place over engine house.

Two cattle troughs fixed on brick piers where shown in crew yard.

Feed tank with ball tap.

1½-in. galvanised iron pipes.

¾-in. branches, including all necessary ball valves and screw down bib taps complete.

ESTIMATE.

	£	s.	d.
Nag stables and Piggery range	239	13	0
Cart horse stable range	227	18	2
Barn and granary range	666	9	7
Cow place range	366	8	6
Covered yards and fences	138	14	7
Drainage	38	12	2
Water supply	150	0	0
	<hr/>		
	£1,827	16	0
Allow in estimate a sum of six hundred pounds for house (cubed).	600	0	0
	<hr/>		
Total	£2,427	16	0
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REPORT OF THE COUNCIL TO THE
ANNUAL GENERAL MEETING OF GOVERNORS
AND MEMBERS OF THE SOCIETY,

HELD AT THE ROYAL AGRICULTURAL HALL, ISLINGTON,
On WEDNESDAY, December 9, 1908, at 3 p.m.

THE DUKE OF DEVONSHIRE (President) in the Chair.

1. THE Council have to report that the list of Governors and Members has undergone the following changes during the year which has elapsed since the Annual General Meeting on December 11, 1907: 13 new Governors and 648 new Members have joined the Society, and 6 Members have been re-instated under By-Law 14; whilst the deaths of 9 Governors, 93 Life Members, 139 Annual Members have been reported. A total of 33 Members have been struck off the books under By-Law 12, owing to absence of addresses; 90 under By-Law 13, for Arrears of subscription; and 254 Annual Members have resigned.

2. Since the last Annual Meeting, the Society has sustained the loss by death of four Governors who had served on the Council, and who had each filled the office of President, viz.: the Duke of Devonshire, K.G., the Earl of Derby, K.G., the Right Hon. Sir Massey Lopes, Bart., and Colonel Sir Nigel Kingscote, G.C.V.O., K.C.B.

3. The late Duke of Devonshire was elected a Governor of the Society in the year 1880, and became President in 1894, in which year the Annual Show was held at Cambridge, of which University His Grace was Chancellor. It will also be remembered that His Grace evinced great interest in the Derby Show of 1906, and, as Lord Lieutenant of the County and President of the Local Committee, contributed in a great measure to the success of that show.

4. The late Earl of Derby was elected a member in 1874, and joined the Council in 1895, becoming subsequently a Vice-President and later a Trustee. It will be within the recollection of almost every Member how well Lord Derby served the Society as President in the year 1904, and how generous he was in his contributions to the special fund raised in connection with the permanent show scheme.

5. Sir Massey Lopes, who passed away in January last at the age of ninety, joined the Society as a Member in the year 1848. He was elected to the Council in 1865, and was

President of the Society when the Annual Country Meeting was held at Preston in 1885.

6. Sir Nigel Kingscote, who died in September last, resigned his position as a Trustee in 1906, and the Council then passed a resolution expressing great regret that he had been compelled by ill-health to retire from their deliberations, Sir Nigel, however, on several occasions since his retirement, attended the Monthly Council meetings as a Governor, and his great interest in the Society's welfare was fully maintained up to the time of his decease. Elected a Member in 1854, Sir Nigel joined the Council in 1863, serving as President in 1878, when the Show was held at Bristol. He was Chairman of the Finance Committee of the Council for upwards of thirty years, and frequently acted as Steward at the Annual Shows. To quote the words of the Council's resolution of 1906, "his energy, tact, and earnestness on all occasions have been of inestimable value to the Society, while his courtesy and kindness have endeared him in a special degree to all his colleagues."

7. Amongst other Governors and Members whose loss by death, during the present year, the Society has to deplore are the Right Hon. Sir Henry Campbell-Bannerman, G.C.B., M.P., the Marquis of Linlithgow, K.T., the Earl of Rosse, Viscount Boyle, Viscount Chelsea, Lord Battersea, Lord Chesham, Lord Crawshaw, Lord Glenesk, Lord Herries, Lord Hotham, Lord Poltimore, Lord Sackville, G.C.M.G., Lord St. Levan, the Hon. and Rev. E. V. Bligh, the Hon. Audley Blyth, the Hon. Arthur Cole, the Right Hon. Evelyn Ashley, General the Rt. Hon. Sir Redvers Buller, V.C., G.C.B., the Right Hon. W. S. Kenyon Slaney, M.P., Sir W. H. E. Chaytor, Bart., the Rev. Sir G. H. Cornewall, Bart., Sir J. H. Gibson Craig, Bart., Sir R. J. Dashwood, Bart., Sir George Macpherson Grant, Bart. (Life Governor), Sir H. Clarke Jervoise, Bart., Sir Elliott Lees, Bart., Sir R. H. Paget, Bart., Sir J. P. P. Radcliffe, Bart., Col. Sir R. G. Ellison, C.V.O., Sir John Evans, K.C.B., Mr. J. N. Attwater, Mr. Alfred Baldwin, M.P., Mr. Charles H. Bassett, Mr. Henry Boden, Mr. J. J. Bowman, Mr. James Braby (Member since 1854), Mr. T. Fowell Buxton, the Rev. Prebendary Berdmore Compton, Mr. William H. Cooke (Member since 1863), Mr. J. H. Cornish, Mr. Ralph Creyke, Mr. L. Morley Crossman, Mr. W. A. Dew, Count G. de Wezele (Member since 1857), Mr. Robert Fisher (Leconfield, Beverley), Mr. James Forshaw, Mr. J. J. Godwin, Mr. E. B. Hadley, Major-Gen. R. Hale, Captain F. Henniker, Mr. Sidney Hill, Mr. F. A. Hordern, Mr. William Hornsby, Mr. David Hume, Mr. John Jones (Dinarth Hall, Colwyn Bay), Mr. J. Llewellyn (Haverfordwest), Mr. Edgar Lubbock, Mr. G. Martin (Member

since 1856), Mr. C. P. Noel, Mr. Hussey Packe, Mr. A. T. T. Peterson, Mr. Thomas Radmore, Mr. W. B. Roderick, Col. E. J. St. John (Member since 1852), Mr. Josiah Smyth, Mr. F. C. Le Gendre Starkie, Mr. B. Stimpson (Norwich), Col. H. F. Swan, Mr. A. Grant Thorold, Mr. John T. Thurlow, Mr. T. H. Thursfield (Member since 1864), Mr. A. C. Twentyman, Mr. Joseph Wainwright, Captain E. M. Whitting, Mr. Thomas Wibberley, Mr. Henry Williams (Moor Park, Harrogate), Mr. Owen J. Williams (St. Asaph), and Mr. F. W. Wragg, F.R.C.V.S.

8. The above and other changes bring the total number of Governors and Members now on the register to 9,739 divided as follows:—

- 1 Foundation Life Governor ;
- 182 Annual Governors ;
- 84 Life Governors ;
- 6,418 Annual Members ;
- 3,024 Life Members ;
- 30 Honorary Members.

9,739 Total number of Governors and Members, as against a total of 9,690 Members on the Register at the time of the last Annual Report.

9. In recognition of the valuable services rendered by him to the Agriculture of Canada, the Council have elected, as an Honorary Member of the Society, Dr. William Saunders, C.M.G., F.R.S.C., F.L.S., Director of Experimental Farms, Department of Agriculture, Ottawa.

10. The Members of Council who retire by rotation at the forthcoming Annual Meeting are those representing the Electoral Districts of Group "A." The number of Members resident in Northumberland on the 1st August last being 319, this Division is now entitled to two representatives instead of one as heretofore. On the other hand, as the membership in both Middlesex and Staffordshire has decreased to less than 300, each of those Divisions loses a Member of Council at the 1908 Election, and is now only entitled to one representative. The results of the elections in the several Divisions of Group "A" will be announced at the Annual Meeting.

11. Having ascertained that the Earl of Jersey, G.C.B., G.C.M.G. (a Vice-President of the Society), would be willing to allow himself to be nominated as President of the Society for the year 1909, the Council have unanimously decided to recommend, at the Annual Meeting, the Election of his Lordship to that office.

12. Under the By-laws, the balance-sheet has to be presented for consideration at the Annual General Meeting. The Council

therefore, beg to submit the balance-sheet for the year 1907 with the Statement of Ordinary Income and Expenditure. These accounts were published in Volume 68 of the Journal issued to Members last March, having been duly examined and certified as correct by the Auditors appointed by the Members, and by the professional Accountants employed by the Society.

13. Major Craigie, who acted as Editor of the last volume of the Journal, having found it necessary to discontinue the work, the Journal Committee have entrusted the task of producing the next number (Volume 69) to Mr. Kenneth J. J. Mackenzie, of the Agricultural Department, Cambridge University.

14. During the past year several parties of agriculturists from different parts of Europe have visited this country, with the object of becoming acquainted with the methods adopted by the British farmer and stockbreeder; and, in some cases, short tours were arranged by the Secretary, in conjunction with Members of the Society, who were good enough to receive these foreign visitors, and show them over their farms and breeding establishments. Chief amongst these parties, were the representatives (numbering about 50) of the National Agricultural Society of Hungary. On the day of their arrival in London, the members of this party were received, first of all by Earl Carrington, the President of the Board of Agriculture, at the House of Lords; and later the same day, by the President of the Society, the Duke of Devonshire, and other Members of Council, at the Society's House, 16, Bedford Square. The itinerary—in the arrangement of which Professor Middleton, of the Board of Agriculture, and Mr. T. S. Dymond, of the Education Department, rendered the greatest assistance—was of a very comprehensive character, and included visits to farms, experimental stations, &c., in different parts of England and Scotland. On their return journey from Scotland, the party spent two days inspecting the exhibits at the Newcastle Show, and were entertained by the Society to luncheon in the Showyard, the Duke of Devonshire presiding. The Chairman of the party, Count Esterhazy, expressed the pleasure their visit to this country had afforded them, and acknowledged the kindness of all those noblemen and gentlemen whose estates they had visited and to whom they were indebted for their very hospitable reception.

15. The sixty-ninth Annual Exhibition took place, under the Presidency of His Grace the Duke of Devonshire, upon the Town Moor, Newcastle-on-Tyne, from June 30 to July 4 last, and was, without doubt, the most successful Show in the history of the Society. Their Royal Highnesses the

Prince and Princess of Wales were the guests, during the Show week, of the Duke of Northumberland at Alnwick Castle, and, attended by His Grace, paid visits to the Show on Wednesday, July 1, and Friday, July 3. On the Wednesday, the Prince and Princess made an extended tour of the Showyard and honoured the President with their company at Luncheon in the Royal Pavilion. The visit of their Royal Highnesses on the Friday was of an official character, the procession including the Lord Mayor and Sheriff of Newcastle and other representatives of the City, together with the Lord Lieutenant of the County (the Duke of Northumberland), the Duchess of Northumberland, the Duchess of Devonshire, and other members of the Alnwick house party.

16. The success of the Newcastle Show will ever be associated with Their Royal Highnesses the Prince and Princess of Wales, as on the occasion of their second visit, on the Friday, the number of persons who paid for admission reached 98,489, or nearly 10,000 more than on the first shilling day at the Nottingham Show of 1888, when the previous highest total for one day (88,832) was registered. It is interesting to note that at the Manchester Show in 1897, when His Royal Highness, as Duke of York, was President, the total number of paying visitors to the Show was 217,980, but on that occasion the Show was open for six days, as against five at Newcastle, where the aggregate number was 213,867. The cordial welcome extended to the Society by the Lord Mayor and Corporation of Newcastle, and by the County of Northumberland generally, with the hearty co-operation of the Newcastle Local Committee, contributed largely to the success of the Show. The statement of Accounts, duly audited, will be submitted to the Governors and Members at the Annual Meeting; and it is estimated that the profit on the Show will be 10,053*l*. In addition to this, there will be the contribution of 2,500*l*. to the Show Account from the Ordinary Funds of the Society.

17. The Ploughing Competitions organised early in the year in connection with the Newcastle Show by the proprietors of the *Newcastle Chronicle* excited considerable enthusiasm in the counties of Northumberland and Durham, and tended in a great measure to popularise the Society's visit to the North of England. The Silver Cups, Medals, and Certificates in these Competitions were presented to the successful competitors by the Duke of Devonshire at the commencement of the proceedings at the General Meeting in the Showyard.

18. The Competition for Plans for Farm Buildings,—the Prizes for which were generously provided by Sir Richard Cooper Bart.—attracted no less than 78 entries, and the designs of the Prize winners were exhibited in the Agricultural

Education section of the Show, where they were inspected by thousands of visitors during the week. The Report of the Judges, with reproductions of the Prize Plans, Specifications, &c., was on sale in the Showyard.

19. The Seventieth Annual Show of the Society will take place at Gloucester from Tuesday, June 22, to Saturday, June 26, 1909. The site, which is well adapted to the requirements of the Show, consists of portions of meadows known as Castle Meads, Oxlease and Portham, situated partly in the City and partly in the County of Gloucester, and is bounded on the North by the main road to Hereford and Monmouth, and on the South by railway sidings of the Great Western Company.

20. The Prize Sheet for Live Stock, Poultry, Produce, &c., at the Gloucester Show, which will be issued early in the New Year, will be on the same comprehensive scale as the schedules of the last three Shows. Towards the Prizes to be offered 1,345*l.* will be contributed by the Gloucester Local Committee, and 315*l.* by the Herefordshire and Worcestershire Agricultural Society. Offers of Champion and other Prizes have been received from the following Breed Societies :—

Hunters' Improvement Society, Polo and Riding Pony Society, Welsh Pony Stud Book Society, Shire Horse Society, Clydesdale Horse Society, Suffolk Horse Society, Shorthorn Society, Dairy Shorthorn (Coates's Herd Book) Association, Lincolnshire Red Short-horn Association, Hereford Herd Book Society, Longhorn Cattle Society, Devon Cattle Breeders' Society, Welsh Black Cattle Society, Red Poll Society, Aberdeen-Angus Cattle Society, English Aberdeen Angus Cattle Association, English Jersey Cattle Society, English Kerry and Dexter Cattle Society, Oxford Down Sheep Breeders' Association, Shropshire Sheep Breeders' Association, Southdown Sheep Society, Hampshire Down Sheep Breeders' Association, Suffolk Sheep Society, Dorset Horn Sheep Breeders' Association, Ryeland Flock Book Society, Kerry Hill (Wales) Flock Book Society, Lincoln Long-wool Sheep Breeders' Association, Leicester Sheep Breeders' Association, Society of Border Leicester Sheep Breeders, Wensleydale Blue-faced Sheep-Breeders' Association, Wensleydale Sheep-Breeders' Association, Lonk Sheep Breeders' Association, Cotswold Sheep Society, Kent or Romney Marsh Sheep Breeders' Association, Devon Long-woolled Sheep Breeders' Society, South Devon Flock Book Association, Exmoor Horn Sheep Breeders' Association, Cheviot Sheep Society, Lincolnshire Curly-Coated Pig Breeders' Association, the Poultry Club, the Gloucestershire Committee of the Poultry Club, Variety Orpington Club and the Campine Club.

Two Challenge Cups, value 50 Guineas each, have been accepted for competition at the Society's Shows : (1) For the Best Mare or Gelding in the Riding Classes for Hunters ; (2) For the Best Single Harness Horse. The Cups to become the absolute property of the exhibitors winning them twice in succession, or three times in all.

21. A sum of 345*l.* is offered by the Gloucester Local Committee in the following four Classes, for the best managed Farms in Gloucestershire and Wiltshire, open to Tenant

Farmers paying a *bond fide* rent for at least three-fourths of the land in their occupation.

CLASS I.—Farm of 300 acres and upwards, chiefly Arable, exclusive of Down. First Prize 100*l.* Second Prize, 50*l.*

CLASS II.—Farm of 50 acres and under 300 acres, chiefly Arable. First Prize, 50*l.* Second Prize, 25*l.*

CLASS III.—Farm of 200 acres and upwards, chiefly Pasture exclusive of Down. First Prize, 50*l.* Second Prize, 25*l.*

CLASS IV.—Farm of under 200 acres, Pasture. First Prize, 30*l.* Second Prize, 15*l.*

A further sum of 315*l.* is also offered by the Herefordshire and Worcestershire Agricultural Society for the best managed Farms in Herefordshire and Worcestershire.

CLASS V.—Farm of 200 acres and upwards, Arable and Pasture. First Prize, 60*l.* Second Prize, 30*l.* Third Prize, 15*l.*

CLASS VI.—Farm of 50 acres and under 200 acres, Arable and Pasture. First Prize, 40*l.* Second Prize, 20*l.* Third Prize, 10*l.*

CLASS VII.—Farm of 150 acres and upwards, of which not less than 20 per cent. is under hops and fruit. First Prize, 60*l.* Second Prize, 30*l.* Third Prize, 15*l.*

CLASS VIII.—Farm of 10 acres and not exceeding 50 acres, chiefly devoted to fruit growing and market gardening. First Prize, 20*l.* Second Prize, 10*l.* Third Prize, 5*l.*

Entries for these Farm Prizes close on Thursday, December 31, 1908. Applications for forms, &c., should be addressed to the Secretary, at 16, Bedford Square, London, W.C.

22. A Prize of 100*l.* has been provided by Members of the Society and others interested in the Hop Growing Industry for the Best Plant for drying Hops. Entries for this Prize must be sent in to the Secretary on or before January 1. Plants entered for Competition will be required to be erected and ready for inspection by August 1 next, and will be tested for drying Hops in the season of 1909. [*In the event of there being less than three competitors, no Trial will take place.*]

23. Prizes are also offered in the following two classes for Fruit Tree Spraying Machines:—

CLASS I.—For the best machine worked by hand-power for washing or spraying trees or bushes in commercial plantations. First Prize, 10*l.* Second Prize, 5*l.*

CLASS II.—For the best Movable Plant for spraying trees or bushes in large plantations, to be worked by steam, petrol, or mechanical power. First Prize, 20*l.* Second Prize, 10*l.*

24. The Council, at their last Meeting, unanimously decided to accept an Invitation from the City Council of Liverpool to hold the Show of 1910 in that City, on a site known as the Wavertree Playground.

25. The number of samples analysed during the year shows a diminution on that of the previous year. During the past twelve months the samples sent have been 410 as against

462 in 1907. At the same time, though a decrease is observed in the ordinary routine matters of analysis, there has been an increase in the number of more special investigations. In addition to samples sent by Members, there were 128 samples of milk, and 23 of cider and perry, analysed in connection with the Society's Show at Newcastle-on-Tyne.

26. At the Woburn Experimental Station there has been continued activity. The Field Experiments and Pot-Culture Station have again been visited by a considerable number of agriculturists and agricultural parties, including the one consisting of members of the National Hungarian Agricultural Society. In addition to the continuation of the Permanent Wheat and Barley and the Rotation Experiments, field trials have been begun with the growing of different varieties of Lucerne, and on the use of Calcium Cyanamide on corn and root crops. Also, the influence of inoculating methods for Lucerne and White Clover has been tried. Further work has been done at the Pot-Culture Station on the action of 'Magnesia in soils, and, for the Royal Commission on Sewage Disposal, an additional year's work on the utilisation of sewage sludges has been conducted. As usual, an exhibit from the Experimental Station was sent to the Show at Newcastle, and another was sent to the Education Section at the Franco-British Exhibition.

27. Since the last Annual Report of the Consulting Botanist, 240 inquiries from Members of the Society have been dealt with. The most striking feature in the seeds examined was the large percentage of Dodder present in many samples of Clover, it being quite exceptional to find a sample free from it. A bacterial disease of swede turnip was investigated, which had rendered an entire crop a failure. Black Scab Disease of Potato, more correctly known as Potato Canker, made its appearance again in many places. This pest, by its steady increase, threatens to be as serious for potato growers as the Potato Disease. Various injuries affecting roses, potatoes, beans, peas, turnips, and swedes were reported upon. From the Woburn Experimental Farm, specimens of a disease-producing fungus were received, which had destroyed the crop of Argentine Lucerne and was spreading to the adjoining plots of Lucerne from other countries. A sample of red clover which germinated only 21 per cent. was the subject of litigation; on the ground that such seed was not fit for sowing, the judge found in favour of the member of the Society, and the seed, which had been delivered, was returned to the vendor.

28. On the whole, crops appear to have been freer than usual from insect attack during the past year. Rather bad

cases of Hessian Fly attack were reported during the summer, and Root Flies have done considerable injury to various root crops throughout the country. Many applications have had reference to Forest Trees, especially beech and coniferous trees, while a case of severe attack on Lime trees by the Winter Moth was reported. Much attention has been given to a disease of the Pea plant, which, although apparently widespread, has hitherto escaped observation in this country. It is due to the so-called Corn Thrips, *Thrips cerealium*. The general interest in the external parasites of domestic animals, which has been excited by the discovery of their power to communicate disease, is still on the increase, and numerous ticks and other animals are continually sent for identification from various parts of the world.

29. Several requests having, during the year, been made for copies of the late Miss Ormerod's diagrams of Insects affecting Trees, which for some time have been out of print, the Council decided to reprint this set of diagrams, which includes the following:—Pine Beetle, Pine Weevil, Pine Sawfly, Goat Moth, Spruce Gall Aphis, Leopard Moth. The diagrams are published for the Society by Messrs. W. & A. K. Johnston, 6 Paternoster Buildings, London, E.C., and Edinburgh.

30. Since the beginning of the year outbreaks of anthrax have occurred with what may be called normal frequency, the number reported agreeing closely with those of recent years. The returns indicate a slight decline in the number of outbreaks of glanders, but the number of animals reported as attacked has increased, this being no doubt attributable to a more extensive use of mallein, with the consequent discovery of occult cases which would otherwise not have been detected. The reported outbreaks of sheep-scab show a distinct increase as compared with the two previous years, but the outbreaks of swine fever fall considerably below those of last year. The appearance of foot-and-mouth disease in Edinburgh in the early part of the year was a cause of anxiety to stock-owners, but, thanks to the prompt and energetic measures taken by the Board of Agriculture, the disease was speedily brought to an end, only 112 animals being attacked.

31. The Government of the Argentine Republic, in consequence of the outbreaks of foot-and-mouth disease, decided to prohibit for a period of six months the importation of Scotch Cattle and of other animals that had been in contact with Scotch Cattle. As this restriction affected animals entered for sale at the Society's Newcastle Show, where Cattle from Scotland would be exhibited, the Council took all possible measures to obtain special permission for animals purchased at the Show to be at once shipped to the Argentine. This special

permission was at length granted, although no official intimation had reached the Society on the matter by the close of the Show.

32. The question of the importation of Canadian Store Cattle into this country has again been considered by the Council, and at their meeting on July 29 the following Resolution was unanimously passed :—

“That in view of the renewed agitation for the removal of the restrictions upon the importation into this country of live animals from abroad, the Council desire to express their appreciation of the attitude adopted by the Board of Agriculture, and to impress upon that Board the grave risk to the flocks and herds of this country that would be incurred should the restrictions at present in force be removed.”

33. The proposed Conference with representatives of other Societies on the Tuberculosis question, of which mention was made in the Council's last Annual Report, was duly held at the Royal Agricultural Hall in December last. The Earl of Northbrook, who was in the chair on that occasion, explained that the Royal Agricultural Society was precluded by its Charter from action upon any “questions pending or to be brought forward in either of the Houses of Parliament,” and that it was therefore impossible for the Society to be represented as a corporate body upon any Committee such as that which was proposed. It was thereupon decided to form a separate body, representative of the cattle, breed, dairy, and other Societies, for the purpose of watching the interests of Agriculture in view of possible legislation with regard to Milk and Meat supply. This body—of which the Earl of Northbrook is Chairman—is now known as the “Tuberculosis (Animals) Committee.”

34. As the result of the examination at the Royal Veterinary College for the Society's Medals for proficiency in Cattle Pathology, including the diseases of Cattle, Sheep, and Pigs, the Silver Medal has been awarded to Mr. A. W. Shilston, of 46, Cameron Road, Ilford, and the Bronze Medal to Mr. S. J. Motton, of 14, The Terrace, Penzance.

35. The Trustees of the “Queen Victoria Gifts” Fund have made a grant to the Royal Agricultural Benevolent Institution of 140*l.* for the year 1908, to be distributed in grants of 10*l.* each to the five male candidates, five married couples, and four female candidates, who polled the largest number of votes in their class, and who would not this year receive grants from any other Fund in connection with the Royal Agricultural Benevolent Institution.

36. The Ninth Annual Examination for the National Diploma in Agriculture was held at the Leeds University from April 27–30, 1908, when the following 29 candidates were

awarded the Diploma, the first four candidates obtaining honours :—

Diploma with Honours.

1. JOHN DUNLOP, Glasgow and West of Scotland Agricultural College.
2. WILLIAM DODS DAVIDSON, Royal College of Science, Dublin.
3. ALEXANDER MANSON, Aberdeen and North of Scotland Agricultural College.
4. RENWICK HUTSON LEITCH, Glasgow and West of Scotland Agricultural College.

Diploma.

JOHN ABERNETHY, Aberdeen University.

LAURENCE ALFRED CHAPMAN, Armstrong College, Newcastle-on-Tyne.

JOHN DUNCAN DAVIDSON, Royal College of Science, Dublin.

SAMUEL WESLEY DEAKIN, Harris Institute, Preston.

REGINALD NORMAN DOWLING, South Eastern Agricultural College, Wye, Kent.

GEORGE FENOULHET, South Eastern Agricultural College, Wye, Kent.

JAMES WATT FRASER, Aberdeen and North of Scotland Agricultural College.

HENRY JAMES HARGRAVES, Leeds University.

JOHN HARVEY-LOUTIT, Aberdeen and Leeds Universities.

JOHN WILLIAM HOLZAPFEL, Armstrong College, Newcastle-on-Tyne.

NORMAN BENTLEY HYDE, Harris Institute, Preston.

ERNEST JAMES INGLEBY, Leeds University.

JAMES PALLETT LANCASHIRE, University College of Wales, Aberystwyth.

THOMAS LIMOND, Glasgow and West of Scotland Agricultural College.

PETER ANDREW MCWILLIAM, Glasgow and West of Scotland Agricultural College.

FRANCIS METCALFE, Harris Institute, Preston.

REES PRICE, University College of Wales, Aberystwyth.

FREDERICK JOHN RICHARDS, University College, Reading.

JAMES BARRY RIGGOTT, Midland Agricultural and Dairy College, Kingston, Derby.

THOMAS SIDNEY RUDKIN, Leeds University.

WILFRID GEORGE SANDEMAN, Glasgow and West of Scotland Agricultural College.

FRANK A. SMITH, Aberdeen and North of Scotland Agricultural College.

ARTHUR STEPHEN, Aberdeen and North of Scotland Agricultural College.

NOËL CROWTHER VIEHOFF, Harris Institute, Preston.

FREDERICK WHITE, Leeds University.

37. The Examinations for the National Diploma in Dairying were held this year for English students at the Midland Agricultural and Dairy College, Kingston, Derby, from September 19-25, and for Scottish students at the Dairy School for Scotland, Kilmarnock, from September 26 to October 2. Thirty-one candidates were examined at Kingston, of whom nineteen passed, and twenty-six candidates at Kilmarnock, of whom fifteen passed. The following are the names of the successful candidates :—

English Centre.

MISS ELSIE MAY BEVIS, Midland Agricultural and Dairy College, Kingston, Derby.

OFFORD DENNIS CARTER, Essex County Council Dairy School, Chelmsford.

JOHN CHARLES JESSER COOPE, British Dairy Institute, Reading.

PHILIP CROWLEY, British Dairy Institute, Reading.
MISS ELLA EDWARDS, University College, Aberystwyth.
MISS MARGARET HOWARD, Lanes. County Council Farm, Hutton, Preston.
NORMAN B. HYDE, Lanes. County Council Farm, Hutton, Preston, and
Midland College, Kingston, Derby.
MISS A. WRATE LEIGHTON, British Dairy Institute, Reading.
MISS MARGARET LITTLE, Midland Agricultural and Dairy College,
Kingston, Derby.
MISS MADELINE MASON, Midland Agricultural and Dairy College, Derby.
GAUPATLAL DAYASHANKER MEHTA, Midland Agricultural and Dairy
College, Kingston, Derby.
MISS DOROTHY MAY OWEN, Midland Agricultural and Dairy College,
Kingston, Derby.
MISS DORA GLOVER SAKER, Midland Agricultural and Dairy College,
Kingston, Derby.
DOUGLAS WILLIAM SCOTLAND, Harper-Adams Agricultural College,
Newport, Salop.
JOHN GEORGE WILLIAM STAFFORD, Midland Agricultural and Dairy
College, Kingston, Derby.
MISS HILDA J. M. TAYLOR, British Dairy Institute, Reading.
MISS DOROTHY THOMPSON, Lanes. County Council Farm, Hutton, Preston.
HENRY G. VAN DER VEEN, Midland Agricultural and Dairy College,
Kingston, Derby.
FRANK WILKINSON, Midland Agricultural and Dairy College, Kingston,
Derby.

Scottish Centre.

JOHN ABERNETHY, Mains Corsindae, Sauchen, Aberdeenshire.
MISS JANET HELEN DAVIDSON, Daljeburgh, Barr, Ayrshire.
MISS NELLY DAVIS, Preston Court, Preston-on-Wye, Hereford.
ALEXANDER JOHN FINDLAY, M.A., 85, Gray Street, Aberdeen.
LAURENCE BARNARD FOORD, The Vicarage, Kirk Ella, Hull.
PERCY ALEXANDER FRANCIS, Gracehill, Ballymena, Antrim.
ALFRED LEONARD GIBSON, Grisdale Farm, Leighton, Carnforth, Lanes.
MISS HARRIET GORDON GIBSON, Cattofield House, Aberdeen.
JOHN HARVEY-LOUTIT, Manse of Foveran, Aberdeenshire.
WILLIAM MITCHELL LENNOX, Altizourie Farm, Straiton, Maybole.
ALLAN STEWART MCWILLIAM, 47, Brackley Street, Farnworth, R.S.O.
MISS ISABELLA MARSHALL, Laverockhill, Baldernock, Torrance.
JOSEPH MORRIS, Reiss Lodge, Wick.
MISS MARGARET T. SHIELL, Whitriggs, Hawick.
MISS MARION THOMSON SMITH SIMSON, Ruglen, Kilkerran, near Maybole.

By Order of the Council,

THOMAS MCROW,

Secretary.

16, BEDFORD SQUARE,
LONDON, W.C.
November 4 1908.

ANNUAL REPORT FOR 1908 OF THE PRINCIPAL OF THE ROYAL VETERINARY COLLEGE.

ANTHRAX.

THE following Table shows the number of outbreaks of this disease, and the total number of animals attacked in each of the last six years :—

Year		Outbreaks		Animals attacked
1903	...	767	...	1,143
1904	...	1,049	...	1,589
1905	...	970	...	1,317
1906	...	940	...	1,326
1907	...	1,089	...	1,466
1908	...	1,108	...	1,426

It will be seen from these figures that during the past five years the number of reported outbreaks has varied but little. For reasons which have been explained in previous Annual Reports, no important decline in the frequency of the disease can be expected. A very large proportion, if not the great majority, of the outbreaks appear to be caused by anthrax spores in feeding-stuffs and manures of foreign origin; and, as there are no practicable means of testing such materials so as to ensure their harmlessness, farmers must put up with the risk. Fortunately, as experience proves, the risk is not a great one, for a total of a little over 1,000 outbreaks per annum in the whole animal population of the country cannot be considered excessive when one takes into account the enormous quantity of grains, feeding-stuffs, and manures annually imported from countries in which anthrax is known to be very prevalent.

It will be noticed that in each year the average number of animals attacked in an outbreak is almost the same, viz., between one and two. The fact proves clearly enough that when proper precautions are taken in connection with the first case in any outbreak the disease is easily stamped out. When larger numbers of animals are attacked in the same outbreak inquiry usually shows that the first case was not correctly diagnosed, and that an opportunity was therefore provided for the infection of other animals by means of the blood, organs, or excrement of the animal first attacked.

For the farmer the all-important fact to remember is, that whenever one of his animals is suddenly and unexpectedly

found dead, or dies from some unrecognised cause after an illness of only a few hours' duration, it is his duty to suspect anthrax, to refrain from interfering with the carcass, and to report the case to the police.

GLANDERS.

The following Table shows the number of cases of this disease reported during each of the past six years :—

Year	No. of cases	Year	No. of cases
1903	2,499	1906	2,012
1904	2,628	1907	1,934
1905	2,068	1908	2,421

These figures at first sight appear to show that glanders was more prevalent during the past year than in any other included in the Table. The larger number of cases reported last year is, however, otherwise explainable, and is reassuring rather than disturbing. The experience of previous years, and indeed of many years prior to 1903, had shown that, while the existing regulations sufficed to hold the disease in check they were powerless to exterminate it. This was because in dealing with outbreaks only the visibly diseased horses were destroyed, the animals which ought to have been suspected in consequence of contact being left alive and allowed complete freedom of movement. The inevitable consequence of this was not only that infected horses were usually left in the same stable, but also that such infected but apparently healthy horses often afterwards changed hands and carried the disease into studs previously healthy. The new Glanders Order, which came into force at the beginning of last year, changed the procedure in an important way, for it gave Local Authorities power to place restrictions on the movements of suspected horses until such suspicion had been removed as a result of the mallein test. Moreover, it ordained the slaughter of suspected horses which reacted to that test, the owner being allowed half value in compensation when the post-mortem confirms the existence of glanders and full value when it does not. As these terms are not unfavourable to the owners of infected studs, it was to be foreseen that advantage would be taken of them, and that is the explanation of the apparent increase in the prevalence of the disease during the past year. Indeed, it may be said that the increase in the number of horses killed as glandered during the past year falls short of what might have been expected, for the number of diseased, though apparently healthy, horses in London alone is probably very large. It is not unlikely that

there is still a good deal of concealment of disease, but this will diminish as owners of infected studs realise the advantage which the new Order offers them, with the necessary consequence that for the next few years more horses will have to be destroyed and compensated for. Already a considerable check has been placed on the dishonest practice of selling suspected horses to unsuspecting purchasers, and there is reason to hope that the disease will before long be brought within narrow compass and finally stamped out.

SWINE FEVER.

The following Table shows the number of outbreaks of this disease for the past six years :—

Year	Outbreaks	Year	Outbreaks
1903	1,478	1906	1,280
1904	1,196	1907	2,336
1905	817	1908	2,067

The only consolation which is to be drawn from these figures is that last year has not been quite so bad as the immediately preceding one, which was the worst for a long period. In other respects the result of last year's operations against swine fever are highly disappointing, and they hold out no promise that the disease will ever be stamped out. That it could be stamped out there can be no doubt, but the late Sir George Brown was probably right when he said that it would have to be treated on cattle-plague lines if that was the end aimed at. When account is taken of the money which it has cost, and of the loss and inconvenience which it has caused to owners and breeders of pigs, one might be tempted to say that the attempt to stamp out swine fever was a mistake from the outset, and that it would be better to abandon it and to allow the disease to take its natural course. That, however, would be a mistake, for it cannot be doubted that if left unchecked it would soon cause enormously greater loss than it has occasioned in recent years. The comparative failure of the methods now in force is attributable to the highly contagious character of the disease, the difficulty of diagnosis during life, and the ease with which the existence of the disease can be concealed. The last of these is probably the most important, and one cannot expect to counteract the temptation to concealment except by making it worth the owner's while to report, and by inflicting heavy penalties when concealment is proved.

SHEEP SCAB.

The returns with regard to this disease for the past year are also disappointing, the number of outbreaks reported having been 849, as against 751 in 1907, and 534 in 1906. These figures must be very disappointing to those who expected that the compulsory dipping Order would make any serious impression on the prevalence of the disease. To dip sheep which are not infected does nothing to prevent sheep scab, though it may be beneficial in other respects. Sheep scab spreads because it has a permanent home in the hill and mountain pastures in Wales, the North of England, and the North of Scotland. What is required to root out the disease is the enforcement of more drastic regulations in these areas, and the infliction of heavy penalties when unreported disease is detected.

FOOT-AND-MOUTH DISEASE.

The discovery of foot-and-mouth disease in a cowshed in Edinburgh during the early part of the year was naturally a cause of much anxiety to stock owners throughout the whole country. That the disease was speedily stamped out after only 112 animals had been attacked was in the first place due to the fortunate circumstance that the owner at once recognised that it was foot-and-mouth disease, and in the second place to the prompt and energetic measures taken by the Board of Agriculture.

The re-introduction of the disease is another reminder that the country is not absolutely safeguarded by prohibiting the importation of cattle, sheep, or pigs from countries in which foot-and-mouth disease is known to exist. It appears to be most probable that in this instance the infection was introduced with hay imported from Holland, and the action of the Board of Agriculture in prohibiting the importation of forage from abroad will be approved by every one who realises what enormous loss another serious visitation of the disease might cause to British stock owners. Incidentally it may also be said that the outbreak of foot-and-mouth disease in the United States of America during the past year, and more particularly the fact that it had extended to several States before the report of its existence reached this country, is solemn warning of the risk which would follow if all foreign cattle imported into this country were not slaughtered at the port of landing.

NEW TESTS FOR TUBERCULOSIS.

As a number of inquiries have been received during the past year regarding the value of certain new methods of applying the tuberculin test, it may be well to refer briefly to those procedures here.

As is well known, the ordinary tuberculin test is carried out by injecting the liquid under the skin and taking the temperature of the animal at intervals during the following eighteen or twenty-four hours. Two years ago it was discovered, by Von Pirquet and Wolff-Eisner, that in tuberculous children a reaction could be produced by applying the tuberculin to the slightly scarified skin (cutaneous reaction) or by dropping it into the eye (ophthalmic or conjunctival reaction). Both these methods have since been tried on cattle, and, while experience is not yet sufficiently extensive to enable one to appraise their value with precision, it may be said that there is no probability that they will in practice prove equal to the old method of applying the test. In neither of these new methods is there any rise of temperature, and what is called the "reaction" is a more or less pronounced but transient inflammation which ensues in the one case in the lining membrane of the eyelids, and in the other case in the area of scarified skin. So far as can be judged at present, neither of the new methods is more reliable than the old one. After repeated tests an animal may cease to react to the cutaneous test, but apparently the reaction may be obtained repeatedly with the ophthalmic test. This, indeed, seems to be the point of most importance in connection with these new procedures, for it may in future help to detect a fraud which many think to be not at all rare, viz., the repeated testing of animals which have to be sold, with the intention of bringing them into a condition in which they will not react.

VACCINATION OF CATTLE AGAINST TUBERCULOSIS.

Experiments which were begun at the Royal Veterinary College ten years ago, and of which a short account appeared in the author's Annual Report for 1901 (Journal, Vol. 63, 1902, page 264), showed the erroneousness of the opinion then generally held that tuberculosis was exceptional among the bacterial diseases, in that one attack did not confer any immunity against a subsequent infection with tubercle bacilli. The experiments in question indicated that, in at least some cases, when a bovine animal contracted tuberculosis it developed a greater degree of resistance to infection than it originally possessed, and they proved that by inoculating cattle with tubercle bacilli it was possible to confer on them a very high degree of immunity. It was not then suggested that the experiments pointed to any safe and practicable method of vaccinating cattle on a large scale, because of the difficulty of obtaining bacilli with the necessary degree of diminished virulence or attenuation. But when it was subsequently discovered (by Smith, Dinwiddie, Frothingham, Koch, Schütz,

and others) that in many cases of human tuberculosis the lesions contain tubercle bacilli that have only a feeble virulence for cattle, it was natural to expect that cultures of such bacilli might prove serviceable as a "vaccin" for immunising bovine animals. The idea was taken up in Germany by Von Behring,¹ at whose instigation a method of vaccinating calves against tuberculosis has been practised on a comparatively large scale. On a smaller scale, and by slightly modified procedures, young cattle have also been immunised against the disease in France, the United States of America, and other countries. A short account of this method of vaccinating animals against tuberculosis was given in the Annual Report for 1905, and from a review of the evidence then available the opinion was expressed that the method was comparatively safe, and that it might prove of great value as a means of combating bovine tuberculosis. In the interval a very large body of further evidence bearing on the safety and efficiency of the method has been obtained, and a confident opinion regarding its merits and demerits now appears to be justified. Briefly, it may be said that this method, when properly carried out, is devoid of danger for the animals operated upon, or at least is not attended by any risk which an owner need hesitate to accept provided he is assured that the operation is a valuable one in its ultimate results. And with regard to the latter point, it may unhesitatingly be asserted that the method is valuable, in the sense that young cattle can thereby be given a high degree of immunity against tuberculosis. These statements are not based entirely on a review of the foreign literature (already considerable) on the subject, but partly on the results which have been obtained in three herds in this country, in which the young cattle have been vaccinated by this method. In two of these only a small number of calves were operated upon, and as these animals were not subsequently tested with tuberculin they have not furnished any evidence as to the actual protective value of the method. They are referred to here only because they went to show that the operation was without danger. The third herd was one of valuable pedigree Shorthorns, and as, with few exceptions, all the calves have been vaccinated for three years in succession, and two seasons' calves have been subsequently tested with tuberculin, the results are of greater value as an indication alike of the safety and of the efficiency

¹ Strictly speaking, Von Behring's experiments were apparently not inspired by the idea that the tubercle bacilli found in human lesions might immediately prove serviceable for vaccinating cattle. He appears to have thought that such bacilli might be modified in virulence by passing them through such animals as goats and guinea-pigs, and thus made suitable for vaccinating cattle.

of the method. In no single instance has the vaccination caused any apparent injury to the animal's general health. After the operation the calves have thriven as well as could be desired, and no vaccinated animal has developed any symptoms of tuberculosis. So much for the safety of the procedure. There remains, however, the equally important question whether any protection has been conferred on the animals by the operation. The most direct method of testing the value of any process of vaccination is to infect simultaneously an equal number of vaccinated and of natural or unvaccinated animals of the same age with a dose of infective material (tubercle bacilli in this case) certain to provoke serious results in the latter. Needless to say that heroic method could not be employed in dealing with very valuable pedigree stock, and one had to endeavour to measure the efficacy of the vaccination in another way, viz., by testing the vaccinated animals with tuberculin at a considerable interval (several months) after the operation. As judged in this way, the result of the vaccination has been highly satisfactory, in view of the fact that the vaccinated calves remained in contact with the cows, many of which were known to be tuberculous. Whereas in former years many of the calves born in the herd contracted the disease and reacted to tuberculin before they were a year old, nearly the whole of the animals which have been vaccinated have come successfully through the tuberculin test, and in the exceptional cases it is not improbable that the calves were infected before the vaccination, or shortly afterwards, before they had obtained the full degree of immunity which the operation confers.

In referring to the results obtained in this herd it is not pretended that if they stood alone they would justify any one in recommending the method as one of proved safety and efficiency, but when they are known to be in harmony with the results obtained on much larger numbers of animals in other countries their value as an object lesson becomes much greater.

Assuming, however, that this method of vaccinating calves against tuberculosis may now be regarded as practically devoid of danger, and efficacious up to a certain point, it must be confessed that the method has some important defects and limitations. The first of these is that the vaccination is useless in the case of animals already infected, and the second is that the protective effect is not obtained until two or three months after the vaccination. It follows from this that the vaccination may fail either because the calf was already infected before the operation, or because it contracts the disease within the following two months. A third defect is that the

immunity is not permanent ; and, while it is not yet possible to say precisely how long it lasts in a serviceable degree, there is reason to believe that it may have almost entirely disappeared a year after the operation.

Lastly, an important fact in connection with this method of protecting cattle against tuberculosis is that it cannot be employed in the case of pregnant heifers or milch cows, because it has been found that the tubercle bacilli present in the vaccin may persist in the animal's body for months after the operation, and possibly some of them might be passed out with the milk.

Where the circumstances permit of its employment, the best method of freeing a herd from tuberculosis still is to test the whole of the animals with tuberculin, and effect a permanent separation (in premises widely apart) between those that react and those that do not. Needless to say, this is a method which involves much trouble and expense, and in many cases it is on that account impracticable. In valuable pedigree herds, apart from the question of trouble and expense, it is generally considered impracticable because it requires the calves to be separated from their dams as soon as they are born. It is in such herds that the protective inoculation of the calves might be adopted with most advantage. Although the "vaccin" has to be injected into one of the jugular veins, the operation is one which any competent veterinary surgeon can undertake, and it has been decided to supply the vaccin, free of charge, from the Research Laboratory at the Royal Veterinary College, for the vaccination of calves belonging to members of the Society during the current year.

CASES OF POISONING IN ANIMALS.

It has been thought of interest to include in the present Annual Report the following notes, which Dr. Lauder has supplied, regarding analyses in suspected cases of poisoning during the last few years.

With the smaller animals—foxes, dogs, &c.—strychnine has been found to be by far the most frequent poison. From the standpoint of the agriculturist, however, more importance attaches to poisoning of horses and cattle. If one may judge from the cases sent to the College, vegetable poisoning among these is rare, but during the past five years cases of poisoning by yew and by hemlock have been encountered.

Taking averages of cases in horses and cattle examined during the last three years, lead and arsenic were found in the following percentages :—

		Lead	Arsenic
Cattle	. . . . .	25	20
Horses	. . . . .	0	16 $\frac{2}{3}$

It is to be observed, firstly, that poisoning is more frequent amongst cattle than amongst horses, a circumstance no doubt attributable to the less discriminating feeding of the former animals.

In the next place, it is remarkable that no cases of lead poisoning should have been encountered among horses.

It is possible that lead poisoning is more frequent with cattle than is commonly supposed, and in this connection it is to be remarked that the nervous symptoms of acute lead poisoning often lead to an incorrect diagnosis of vegetable poison.

On the farm great care should be exercised to prevent the possibility of lead preparations being left where cattle can reach them. The possible vehicles of poisoning are lead paints—particularly white lead and red lead—scraps of metallic lead, and, where soft water is used, its storage in leaden cisterns.

The capacity of cattle for lead “as a food” is enormous, the proportion found in the viscera generally being very high, the lowest ever found here being $\frac{1}{4}$ grain per ounce, and the highest as much as $2\frac{1}{2}$ per cent. of the visceral contents.

In all cases of acute poisoning it should be remembered further that the stomach and intestinal contents are most suitable for chemical examination.

Unfortunately it is not always possible to trace the source of poisoning with lead, but whenever this has been done it has always been found that it was lead paint.

As regards arsenic, several interesting cases have been dealt with. In one arsenic was found in the second and fourth stomachs of a heifer in the proportion of $\frac{1}{80}$ grain per ounce, and poisoning was ultimately proved to have been caused by the mixture of a vermin powder with meal.

An extensive arsenical poisoning case in cattle in the West of England may be also mentioned. Several animals were examined and small proportions of arsenic invariably found disseminated through the whole visceral contents. The actual quantities were small, varying from $\frac{1}{80}$ to $\frac{1}{160}$ grain per ounce, according to the impaction of the material. Since no noteworthy lesions were observed, doubt seemed still possible as to the cause of death, especially as diligent search of the pastures and water supplies failed to reveal arsenic. Very shortly afterwards another death occurred, and the whole alimentary tract was examined, once again showing arsenic in about the same proportions as previously found. Ultimately it was discovered that the animals had had access to a water cart containing arsenical weed killer.

In reference to poisoning of farm animals there are many points which would repay exact investigation. To name a

few—cotton cake is often held responsible for death, but no poisonous principle has been found in it and no systematic feeding tests appear to have been made. Death is vaguely attributed to castor oil, or referred to mechanical irritation by the undecorticated cake. Zinc is often found in cattle and horses, sometimes in relatively large quantities. Without experiment it is exceedingly difficult to form an opinion as to whether zinc is to be held poisonous or not. The same remarks apply to copper and to antimony. Experimental investigation is also required as to the poisonous effect of cyanide-producing foods, such as the Java bean and linseed, which have attracted much notice recently.

Another point of great value from the toxicologist's standpoint is an experimental determination of the proportion of poison found to poison administered.

J. MCFADYEAN.

Royal Veterinary College,
London, N.W.

ANNUAL REPORT FOR 1908 OF THE CONSULTING CHEMIST.

ALTHOUGH the actual number of samples analysed during the year shows a diminution on those of the preceding year—this being 408 as against 462 in 1907—there has been far from inactivity shown by the Royal Agricultural Society of England in the prosecution of its endeavours to safeguard its members, and to give them advice in their farming, as well as to bring to light such cases of adulteration and fraud as may have come to their notice.

Without doubt the multiplicity of facilities, through State Aid to Agricultural Colleges and other bodies, for supplying the farmer with the ready means of having his fertilisers and feeding stuffs analysed at low rates, has had a marked effect upon the extent to which the Society's Chemical Department is now resorted to. So, too, has the introduction of the Fertilisers and Feeding Stuffs Act, one which has brought about a sense of security—frequently, it is true, not fully warranted—on the part of the farmer.

The records, however, show that though these adverse agencies have exercised an influence as regards the number of samples submitted for analysis in the ordinary course, yet, so far as concerns special investigations and matters outside the usual "run" of things, the laboratory of the Society is

resorted to in the majority of cases of special difficulty or importance.

The Fertilisers and Feeding Stuffs Act of 1906 has now had a two years' working experience, and it may be allowable, therefore, to review it in the light of what it has been able to effect. To tell the truth, it must be acknowledged that it has proved, as I ventured to predict it would, even more of a "dead letter" than its predecessor of 1893. It must be acknowledged, at the same time, that in some minor respects it has been an improvement on the old Act, but, as a matter of fact, the practical utility of the Act has been thwarted almost entirely by: (1) the retention—at the instigation of manufacturers and the trade—of the clause limiting the operation of the Act to samples taken with due observance of all formalities and within 10 days of delivery (three days of these being required by way of giving notice of intention to sample); (2) the taking away from County Councils of the right of instituting proceedings on their own initiative; and (3) it must be added, the unwillingness shown by the Board of Agriculture to institute proceedings even when flagrant cases have been brought to their notice.

Accordingly it has come about that I doubt whether there is a single instance in which action has been set on foot by a private individual, still less by the ordinary farmer, and, where anything has been attempted, it has been solely by the agency of official samplers who have been specially instructed by their County Councils to look out for suspicious cases. More often than not the outcome of such exceptional activity has met with but little encouragement from the Board of Agriculture, who, in 90 per cent. of the cases submitted to them, have contented themselves with giving a "warning" to the trader at fault. The Board's Annual Report for 1907 on the working of the Act gives the particulars of some 20 cases submitted to the Board, but in only two of these was a prosecution instituted. One of the cases was dismissed on a technical objection, and the other failed.

In the course of the present year a case was submitted to the Board of Agriculture by the R.A.S.E. in which, under the name of the natural salt "Kainit," was sold an artificially prepared salt, obtained from seaweed, the potash salt of which consisted largely of carbonate of potash, and not of sulphate of potash as in the case of "Kainit," and which, if mixed with sulphate of ammonia, would drive off the ammonia and entail heavy loss to the farmer. Yet the Board of Agriculture was unwilling to prosecute even in this case. Such a disposition on the part of the Board is most discouraging to a Society like the R.A.S.E., which has done so much to secure and maintain

the purity and good quality of the materials supplied to the farmer.

The Chemical Department of the Society has further been instrumental in exposing another great fraud which there is reason to believe has been flourishing rampantly for a considerable time. This is the adulteration of wheat offals, such as bran, sharps, pollards, &c., as well as barley and other meals, with a waste product called "shudes" or "shude meal." This, however, instead of being shudes (the outer husk of grain) is nothing but finely ground sawdust mixed with sulphate of lime (gypsum), a material quite unfit for feeding purposes. It has come to light that large quantities of this material have been sent to millers throughout the country, and are used by them for adulterating offals, and for the compounding of that very indefinite article known under the name "pig meal." It is hoped, however, that the unearthing of these facts will come in time to stop the further progress of this fraudulent sale and of its possible imitations.

Coming to matters of general interest, it may be said that the year has been marked by the high price of feeding-stuffs generally, while fertilisers have continued much on the same level as before. Linseed Cake has been very dear, but there have been comparatively few complaints as regards its quality or purity. Cotton cake has also gone up in price, and, while Decorticated Cotton Cake is unfortunately very scarce, "Bombay" Cotton Cake has improved in respect of manufacture, and the difference between it and "Egyptian" Cotton Cake is not so marked as it was, either as regards quality or price.

Little has been heard of Java Beans or other articles about which a warning has been given before, and, indeed, there has been a dearth of articles new to the food-stuff market.

As to fertilisers, little complaint has had to be made, so far, at least, as the ordinary purchase of the farm is concerned; but, in regard to special manures, waste materials and others sold under high-sounding names, there has been, as ever, need of caution.

Attention has very properly been directed to two new nitrogenous manures which bid fair to rival the supremacy of nitrate of soda and sulphate of ammonia, and, indeed, to supply a check on the independent position occupied by these latter. The new materials, calcium cyanamide and calcium nitrate (nitrate of lime), are both produced by electrical means, the atmosphere itself being in each case utilised as the source of nitrogen. Though much has been talked about these products, they have not until quite recently been articles generally obtainable. The difficulties attending their

manufacture on a commercial scale seem, however, to have been in measure overcome, and they are now being put on the market. There is still uncertainty as to their cost of production, and on this, as on their agricultural utility as compared with nitrate of soda or sulphate of ammonia, must their practical success turn. Even now it would seem that their price will be largely regulated by the corresponding price of the unit of nitrogen in nitrate of soda, &c. It behoves the scientist, however, to experiment with the new materials and to ascertain how they compare with the present supplies of nitrogen. Experiments to this end are now in progress at the Woburn Experimental Farm. If the farmer finds that he can get his nitrogen in the new form as cheap as, or cheaper than, he can in nitrate of soda or sulphate of ammonia, and if it proves equally effective in the field, he will not be slow to avail himself of the presence of these new materials on the market. But the whole question of their utility resolves itself into one of their initial cost.

The different reports which I have submitted to the Chemical Committee from time to time show the prevalence still of a certain amount of adulteration against which it is necessary to be on one's guard, and the Council have, I am glad to say, decided to revert to their former practice of publishing with such cases the names of the offending parties.

A matter which has engaged considerable attention is the adulteration of offals, experience having shown that these are frequently otherwise than they should be. In this connection reference is made to the use of the material called "shudes," already mentioned.

Another point of interest is the occurrence occasionally in linseed of a body which would appear to impart objectionable, if not even harmful, properties to the cake manufactured from it.

Yet another subject demanding attention at the present time is the occurrence of castor bean in feeding materials, and this more especially in view of statements which have been lately put forward throwing doubt on the general belief in the poisonous properties of the same when occurring in feeding materials.

The following matters, arranged under their different heads, may now be set out in fuller detail:—

A. FEEDING STUFFS.

1. *Linseed Cake.*

Instances still occur in which linseed cake is sold under a guarantee of being "95 per cent.," "97 per cent.," &c., pure. It should be pointed out that such a form of guarantee is not

permissible under the Fertilisers and Feeding Stuffs Act, and purchasers should decline to accept any delivery of linseed cake under these terms. If a cake is described as "linseed cake," it must be a "pure" cake, and any other should be described as "oil cake," or by some term indicating that it is not guaranteed as pure.

Prussic Acid in Linseed Cake.

It may be remembered that in the case of Java beans, the harmful properties of these have been found to be due to the presence, in the bean, of a body known to chemists as a "cyanogenetic glucoside," and which, when the bean is macerated in water, develops hydrocyanic acid (prussic acid.) Something of the same nature has now been ascertained to occur occasionally in the case of certain kinds of linseed.

Though the conditions under which this happens are not yet fully understood, it would appear that it may occur when seed is used which has not been thoroughly ripened. At all events it does occasionally happen that linseed cake, on being stirred up with water, develops a certain amount of prussic acid. I have reason to think that the possible harm resulting from this has been considerably overstated. Still, it is a matter to which attention should be directed, and which calls for further investigation.

In one case which was brought to my notice a member of the Society sent me a sample of linseed cake which he said his lambs refused to take. I found the cake to be quite free from any weed seeds or foreign matters, but, on looking into the matter further, I found that it certainly did develop, when stirred up in water, a not inconsiderable amount of prussic acid. I have no doubt that it was to this that the reluctance of the sheep to take the cake was due, though no actual harm resulted from its use.

2. Decorticated Cotton Cake.

This kind of cake, as already mentioned, has been exceptionally scarce. Occasionally a good sample is met with, and of this the following is an example :—

Moisture	5.93
Oil	18.71
¹ Albuminous compounds	39.31
Mucilage, digestible fibre, &c.	25.16
Woody fibre (cellulose)	3.62
² Mineral matter (ash)	7.27
	<hr/> 100.00
¹ Containing nitrogen	6.29
² Including sand	none

3. *Cotton Cake.*

An instance was brought to my notice in which cotton cake was believed to have done injury to stock. On examination of the cake I found in it a small amount of castor oil bean. The occurrence of this seed in cotton cake is, however, I must say, according to my experience, quite exceptional.

4. *Castor Bean.*

The not unfrequent occurrence of castor oil bean in different feeding materials has drawn particular attention to the circumstances under which this seed may find its way into cargoes of other seeds used for the manufacture of feeding stuffs.

Doubts have, further, been expressed as to whether it is really necessary to take such rigid precautions as are at present observed for the exclusion of castor bean, and whether it possesses in full the dangerous properties which have been always attributed to it, chiefly by agricultural chemists. More recently, however, it has been maintained that, by a new process for extracting the oil entirely from the castor bean, the injurious qualities are altogether removed, and the resulting meal is a quite fit material for feeding purposes.

While not inclined—as the result of my experience in the past—to modify materially my views as to the dangerous properties of castor bean when it occurs in feeding materials, and while I think that its presence in them should be rigidly guarded against, I yet feel that the question raised is an important one, and one which is fully worthy of further investigation. Still, if it be the case that the removal of the oil takes away also any risk of poisoning, it is clear that everything will depend upon whether an assurance can be given that the whole of the meal has been thoroughly extracted, and that none has escaped the action of the solvent process.

5. *Bran.*

The preference by many purchasers for what is known as a “bold” bran, more especially for the feeding of hunters, occasions a special demand for a large or coarse bran, this fetching a higher price than ordinary kinds. In this connection it was brought to my notice that, with the object of meeting this demand, there existed a practice of damping the smaller bran with water, and then rolling the pieces together in order to make the bran look larger. I had such a sample submitted to me, but may say that I had no difficulty in detecting when this had been done.

6. *Sharps.*

A sample sent me of what had been sold as “Fine Sharps” was found not to be a pure sample, but to contain both rice

starch and rice husk, the latter so finely ground up that it was very difficult of detection.

7. *Pig Meal.*

A sample of pig meal which was sold at 7*l.* 10*s.* per ton, and was stated to consist of three parts of barley meal and one part of wheat screenings, was found to be very inferior and to contain weed seeds and sweepings. Among the weed seeds were cockle seed, chenopodium, and polygonum, together with $2\frac{1}{4}$ per cent. of sand.

In another instance a member sent me a sample of what had been sold to him as a "suitable meal for pigs." He complained, however, that the pigs did not take to it, and that some of them had died. On examination of the meal I found it to consist of damaged cotton seed and to be extremely acid. Such a material as this is one altogether unfitted to the digestion of pigs.

8. *Shudes.*

Under the name "shudes" or "shude-meal"—a term which, when properly applied, refers to the outer husk of certain grains such as oats, rice, &c.,—there has been put on the market, and sent widely to millers throughout the country, a material which is composed entirely of sawdust and sulphate of lime (gypsum), practically half and half. There is reason to believe that this has been largely used for adulterating the different offals of wheat, and also in the compounding of meals for feeding purposes. It is needless to state that the constituents, sawdust and gypsum, are in no sense feeding materials, and, under certain conditions, and if used in any quantity, may be distinctly injurious.

The material is offered at 2*l.* 15*s.* per ton.

In one instance a member of the Society sent me a sample of sharps which gave, on analysis—

Mineral matter	16.04 per cent.
Including sulphate of lime	12.97 „

The examination of this sample showed me that the sharps had been adulterated with sawdust and gypsum, very probably by the addition of a material such as that described above.

B. FERTILISERS.

1. *Basic Slag.*

The following is an instance of an exceptionally good quality sample :—

Percentage of—	
Phosphoric acid	23.29
Equal to phosphate of lime	50.84
Fineness of grinding	82.0

The price of this was only 53s. per ton delivered, in Buckinghamshire.

2. Soot.

I have on previous occasions referred to the variability found in the quality of soot, and have pointed out the need of exercising care in the purchase of this material. That good samples are obtainable is shown by the following analyses :—

Percentage of—	A	B
Nitrogen	4.42	4.77
Equal to ammonia	5.37	5.79

3. Castor Meal (as manure.)

This material is not unfrequently obtainable for manurial purposes. As a rule its quality ranges between 5 and 6 per cent. of ammonia. Sometimes, however, a meal is obtainable from which the husk has been largely removed, and which gives even higher results, as shown by the following analysis of a sample sent me by a member of the Society.

This contained—

	per cent.
Nitrogen	7.73
Equal to ammonia	9.39

It is well, however, to mention that castor meal is often adulterated with mineral matter such as carbonate of lime, sand, &c.

4. Artificial Kainit.

A matter of great importance to farmers was brought out in the course of an inquiry which I made in consequence of receiving from a member of the Society a sample of what he had purchased as “Kainit.” The article was invoiced as kainit, was sold with the usual guarantee for that material (to contain 11 per cent. of potash) and at the usual price of kainit. I found, however, on making an analysis of it, that it was not the natural salt kainit, such as comes from the mines at Stassfurt (Germany), and which is a *neutral* salt, the potash being present as *sulphate* of potash; but that it was a salt of decidedly *alkaline* character, and that the potash, instead of being present as sulphate of potash, existed largely as *carbonate* of potash. In consequence of this, when the salt was mixed with sulphate of ammonia, ammonia was freely driven off and lost. As the purchaser intended to mix the “kainit” with sulphate of ammonia, he would have experienced considerable loss if he had used the two salts together, whereas the natural salt kainit could quite well be, and is frequently, so used. Enquiries which I made elicited the fact that the so-called “kainit” was an artificially prepared salt, obtained from

sea weed. There was no indication given, however, in either circular or invoice, that the salt was other than the natural salt from the German mines, but its composition, as stated, differed materially from that of the natural salt "kainit." When the full facts were elicited, they were put before the Board of Agriculture with a view to the taking of proceedings under the Merchandise Marks Act, on the ground of "false trade description." The Board, however, contented themselves with giving the manufacturers a "warning," and obtaining from them an undertaking to discontinue the application of the term "kainit" to the article in question.

5. *Special Manures.*

Under various names different materials have been brought forward, some good and reasonable in price, but many, on the other hand, comparatively dear. Among the latter may be mentioned the following :—

(a) "Fertiliser"—a material consisting of the refuse from distilleries, and costing 5*l.* 17*s.* 6*d.* per ton delivered. The analysis was—

Moisture	8·09
¹ Organic matter	80·28
² Phosphoric acid.	4·85
Lime	·42
³ Alkalies, &c.	6·01
Insoluble siliceous matter	·35
	<hr/>
	100·00
¹ Containing nitrogen	6·25
Equal to ammonia	7·59
² Equal to phosphate of lime	10·60
³ Containing potash	3·98

The nitrogen in this material is in a very unavailable condition, and the price must be considered a good deal in excess of the real value.

(b) Fish manure (so-called) costing 3*l.* per ton. This gave, on analysis—

Soluble phosphate	per cent. 6·97
Insoluble phosphates	20·28
Nitrogen	·68
Equal to ammonia	·83

"Fish manure" is not a proper term for this material as it has little resemblance to fish manure. The price, too, is fully high.

(c) Tillage—sold in Lincolnshire at 2*l.* per ton, delivered.
The analysis was—

Moisture	50·00
¹ Organic matter	26·67
Lime	3·00
² Phosphoric acid	·88
Alkalies, &c.	12·81
Sand	6·64
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	2·27
Equal to ammonia	2·76
² Equal to phosphate of lime	1·92

This, it will be seen, was half of it water, and it was, consequently, in very bad condition for applying to the land. 1*l.* a ton would have fully represented its value.

6. *Sewage Sludge.*

When sewage sludge can be obtained near at hand and at small cost, it may be advantageously employed for market-gardening purposes. Also, in the case of heavy land, its use will be found to improve the working of the land. The following is the analysis of a sludge which a farmer on heavy clay land in Essex used with advantage, finding it make the land “work” well, and being useful for peas, beans, oats, and wheat. The cost of it was 7*l.* per 100 tons delivered.

Moisture	53·28
¹ Organic matter	11·68
Lime	14·58
² Phosphoric acid	·73
Oxide of iron, &c.	12·93
Insoluble siliceous matter	6·80
	<hr/>
	100·00
	<hr/>
¹ Containing nitrogen	·38
Equal to ammonia	·46
² Equal to phosphate of lime	1·60

This was evidently quite worth getting. It was found, however, not to do well with potatoes on light land, the tendency being great for the potatoes to become “scabby.”

7. *Ground Lime and Chalk.*

I have in previous reports alluded to the fact that “ground lime” is a material of somewhat uncertain quality, and that care must be exercised in its purchase. The following are

instances which have occurred of the sale of fair quality and of inferior ground lime :—

	A	B
	Fair quality.	Inferior.
Oxide of iron and alumina	3·60	3·19
Lime	85·76	59·67
Magnesia	·93	20·81
Carbonic acid, &c.	4·24	
Silica	5·47	16·33
	<hr/> 100·00	<hr/> 100·00

Nor must it be supposed that chalk, even when dug straight out of a pit, is necessarily a material that is suitable for burning or for using direct on land. It may sometimes be excessively siliceous, as the following analysis of chalk dug from a pit near Leighton Buzzard, shows :—

Oxide of iron and alumina	1·88
Carbonate of lime	44·25
Sulphuric acid, &c.	7·54
Silica	46·33
	<hr/> 100·00

C. MISCELLANEOUS.

1. *Soil poor in Lime.*

A sample of soil was sent me from the Birmingham district, the sender complaining that patches of land over the extent of a field refused to grow any crop, although the land was well manured. Both wheat and mangold, though they came up well, died away altogether. Analysis of this soil gave—

(Soil dried at 212° F.)

Organic matter	5·21
Oxide of iron and alumina	4·95
Lime	·10
Phosphoric acid	·19
Magnesia, alkalies, &c.	·49
Insoluble siliceous matter	89·06
	<hr/> 100·00

The soil, it will be seen, was exceptionally poor in lime. I then suggested the sending to me of a sample of the soil from parts where a crop could be obtained, and, on analysing this, I found there to be :—

Lime 15 per cent.

or somewhat more than in the barren portions. It is clear, however, that the whole land will, sooner or later, require a good dressing of lime.

2. *Magnesia in Soils.*

My attention has of late years been directed considerably to the question of the influence which magnesia exerts as a constituent of the soil and when applied to crops. Experiments on this point have been carried out at the Woburn Pot Culture Station, and with very striking results. These are now being extended to the field cultivation. The general bearing of the work, so far, has been to show that when the amount of magnesia in the land preponderates over that of the lime present, a deteriorating effect is produced on the crop. For some years past I have noted the results obtained in analysis of soils where this fact has been brought out, and have made inquiries regarding the cropping powers of these soils. It has been brought home to me forcibly, in consequence of these observations, that, in cases where complaint has been made that the soils do not crop satisfactorily, while there has been no evidence of the absence in sufficiency of such necessary constituents as phosphoric acid, potash, nitrogen, &c., or even of lime, there has been found a marked preponderance of magnesia over lime present. To this fact, therefore, I am inclined to attribute the failure of the soils to crop properly. Such an instance is the following, the soil coming from near Burton-on-Trent.

(Soil dried at 212° F.)	
¹ Organic matter and loss on heating	5.18
Oxide of Iron	2.83
Alumina	4.07
Lime . . . . .	.63
Magnesia	1.44
Potash . . . . .	.74
Soda . . . . .	.28
Phosphoric acid . . . . .	.15
Sulphuric acid . . . . .	.01
Insoluble silicates and sand	84.67
	<hr/> 100.00
¹ Containing nitrogen . . . . .	.146

This soil, one would say generally, showed no deficiency in either vegetable matter, nitrogen, phosphoric acid, potash, or lime, and yet the evidence of the farmer went to show that it would not grow satisfactory crops. It will be noticed that the magnesia was largely in excess of the lime present, being more than double the latter, and to this fact I am inclined to attribute the failure of the land. This is but one of several similar instances which I have collected, all bearing on the same point, and confirming the work at Woburn to the effect that predominance of magnesia over lime is an undesirable

feature in soils. The remedy for such a state of things is, of course, to give the land repeated dressings of lime.

List of samples analysed on behalf of members of the Society between December 1, 1907, and November 30, 1908 :—

Linseed cakes	35
Uncorticated cotton cakes	22
Decorticated cotton cakes	6
Compound feeding cakes and meals	30
Cereals	12
Rice meal	1
Dried grains	1
Superphosphates	20
Dissolved bones	8
Compound manures	11
Raw and steamed bones	12
Peruvian guano	8
Fish, meat, and bone guano	7
Basic slag	39
Nitrate of soda	1
Sulphate of ammonia	12
Potash salts	7
Shoddy	25
Hoofs and horns	3
Rape and other manure cakes	3
Lime	10
Soot	5
Waters	52
Soils	23
Milk, cream, and butter	22
Miscellaneous	33
Total	408

J. AUGUSTUS VOELCKER.

22 Tudor Street,
London, E.C.

ANNUAL REPORT FOR 1908 OF THE CONSULTING BOTANIST.

THE number of inquiries from members of the Society during the past twelve months amounts to 267. Autumn and early spring brought farm seeds requiring information as to their quality; later on the inquiries related to weeds of the farm, garden, and orchard, their injurious properties, and the best method of getting rid of them.

SEEDS.

It was indicated in the report for last year that the previous year's bad harvest of clover seeds would lead to the placing on the market of seeds of very unsatisfactory quality. This was realised to a marked extent. The prices at the beginning of the season were high, and at its height extravagant prices were asked for seeds not of extra quality. For example, a quantity of English-grown red clover bought for 56s. per cwt., was found to contain only 91 per cent. of pure seed, and to germinate only 25 per cent. This was worse than useless to the farmer. Better samples cost 140s. or more per cwt. Fifty-two per cent. of all the red clovers examined were condemned on account of the presence of dodder seeds. Of these, the sample that contained the smallest number of dodder seeds, had yet thirty in a lb., while the worst sample contained two thousand four hundred and sixty-one in a lb. Countries that are attempting to prevent the importation of dodder seeds with clover condemn samples that contain more than eight such seeds in the pound. The French *Journal Officiel* for April, 1908, publishes a Presidential order prohibiting the importation into France of agricultural seed containing any seeds of dodder, and establishing centres for the examination of every imported sample as to its freedom from these seeds. In the absence of such action there is no means in England of protecting the farmer from being offered impure seed, and it is probable that a good deal of such seed rejected by France and other countries may find its way from the Continent into our market. The quantity of dodder sown with seed this past season will necessarily supply quantities of dodder seed in the English-grown seeds offered for next year's sowing. It is very important that a guarantee of purity be secured from the merchant, in accordance with the form recommended by the Society. Modern seed-cleaning machines have been greatly improved, and are capable of eliminating almost every impurity. At the

Society's show at Lincoln in 1907, such a machine was exhibited which received special commendation from the judges. The manufacturer claims for it that it removes from clover seed the seeds of dodder, dock, and other weeds, light seeds, and all foreign matters. The seeds of our native dodder may be easily separated from red clover, but the larger grains of foreign dodders are more difficult to remove as these seeds are almost the same size as the clover seed. The more careful merchants do not purchase clover which contains these large dodder seeds.

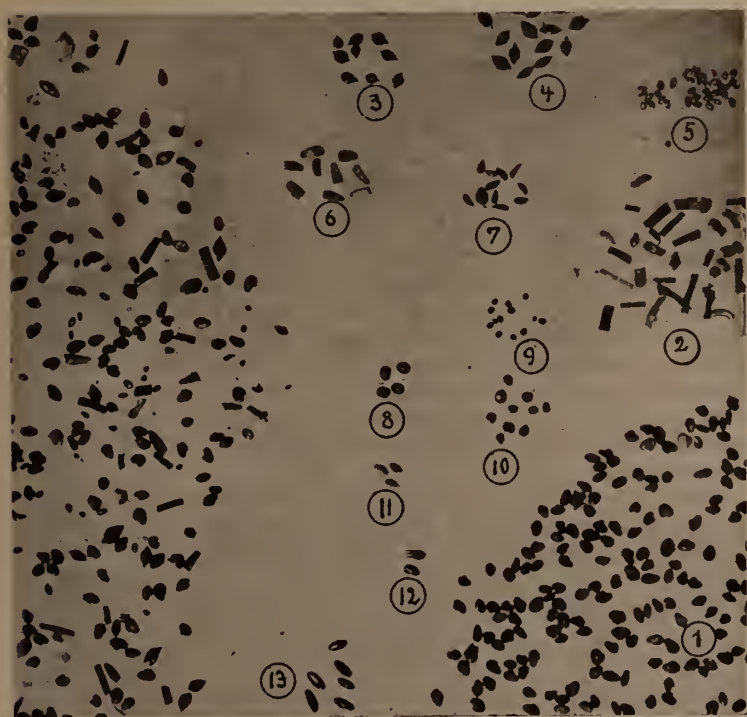


FIG. 1.—Sample of red clover with the impurities separated.

The photograph (Fig. 1) of a bad sample of red clover will convey to the eye some idea of the impurities that may be met with. The left side of the illustration shows a portion of the sample spread out on a white surface for examination. The red clover, of course, predominates in the sample, but the presence of other seeds may be detected by the naked eye from their form and size. The different impurities have been

separated from the clover on the right side. The various elements in the mixture are:—

1. Red Clover (*Trifolium pratense* Linn.).
2. Vegetable fragments and earthy matter.
3. Knot-weed (*Polygonum aviculare* Linn.).
4. Dock (*Rumex crispus* Linn.).
5. Suckling Clover (*Trifolium minus* Linn.).
6. Chicory (*Cichorium Intybus* Linn.).
7. Wild Parsley (*Petroselinum segetum* Koch).
8. Cut-leaved Cranesbill (*Geranium dissectum* Linn.).
9. Common Dodder (*Cuscuta Trifolii* Bab.).
10. Foreign Dodder (*Cuscuta suaveolens* Seringe).
11. Henfoot (*Torilis nodosa* Goertn.).
12. Field Madder (*Sherardia arvensis* Linn.).
13. Rib Grass (*Plantago lanceolata* Linn.).

Most of these impurities may be removed by sifting machines, others by submitting them to air blasts, so that from even the impurest specimen by careful treatment a good and useful sample may be procured.

A member of the Society sent a sample of red clover seed to test for germination. It grew only 21 per cent. The member proposed to return the seed but the vendor refused to receive it and sued the member for payment. The Consulting Botanist, at the request of the member, sent his Assistant, who had made the tests, to give evidence in the case, with the result that the Judge found that the seed should be returned to the vendor.

The question of the usefulness of so called "hard seeds" has been raised by some members. "Hard" seeds, *i.e.* *hard coated* seeds, constantly occur in all leguminous seeds. When a quantity of any seed of this Order is soaked in water for twenty-four hours all normal seeds absorb the water and swell, while the hard coated seeds remain unaltered. In the ordinary course of growth the swollen seeds germinate first, the hard seeds do so only after some time, it may be months or even years. Hard seeds cannot be recognised in a sample, they must be soaked, when their detection is, as has been said, quite easy. In consequence of their late germination hard seeds may be of some value in a permanent pasture, where their *time* of germination is of less value, but in clover lays the hard seeds are of little value. They are for the lay practically dead seeds. Hard seeds are always present in white clover, often as many as 20 per cent. In red clover they often reach 5 per cent., in trefoil about 8 per cent., in Alsike 3 per cent., and Lucerne 2 per cent.

Sundry agricultural seeds like cereals, root crops, kale, rape, chicory, burnet, sainfoin, yarrow and various vegetable seeds have been examined and on the whole proved satisfactory.

Timothy and bentgrass samples contained nearly in every case traces of ergot grains. Attention is more generally paid to ergot by farmers when it is noticed in the crop, but when present in seed it does not seem to be considered of much importance by merchants and buyers alike. When noticed by the purchaser it is usually said to be only the dung of insects. Bearing in mind that the ergot grain is the resting stage of the fungus, which in the spring produces fruiting bodies, the spores from which may attack any kind of grass, it is easy to prevent the appearance of this dangerous fungus by refusing any grass in which it is found.

Seeds have again been examined for His Majesty's Office of Works for use in the royal parks, for the Asylums Office of the London County Council and other public bodies.

DURATION OF VITALITY IN FARM SEEDS.

A diagram illustrating investigation on this point was brought up to date and again displayed in the Education Section at the Newcastle Show ; and several inquiries have been made regarding its use. As some of the seeds under investigation still germinate, it is not at present proposed to publish results in detail. After testing forty-three kinds of farm seeds for thirteen seasons, it may just be mentioned that this year two kinds of oats grew about 25 per cent., a few varieties show feeble signs of life, and that the great majority are dead. If, as is probable, next year sees the completion of the experiment, the matter will be treated on *in extenso*.

DODDER SEEDS IN SEED MIXTURES FOR PERMANENT PASTURES OR TEMPORARY LAYS.

Experiments have been carried out with the view of ascertaining the danger from dodder seeds present in clover or in ready-made seed mixtures for laying down pastures, and some interesting facts have been collected.

From badly infested samples of red clover, dodder seeds of the two kinds—the larger foreign and the native—have been separated and sown with various seeds used in agriculture. The plants used were red clover, white clover, alsike, trefoil, lucerne, timothy, rye-grass, cocksfoot, rape, and kale. In every instance the seeds of the crop came up before the seed of the dodder, and both kinds of dodder attached themselves to these very different plants. While the various clovers were more or less rapidly destroyed, little damage was done to the cruciferous plants like rape and kale, and practically none was done to the grasses. The dodder grew, flowered,

and produced seeds on the clovers, while the other plants only provided food for the parasite for a time. The grasses suffered least from the attack; they supported the dodder plants from twenty-one to thirty-four days in a condition vigorous



FIG. 2.—Rye-grass attacked by dodder.



FIG. 3.—Red clover attacked by dodder.



FIG. 4.—Kale attacked by dodder.

enough to enable them to spread to neighbouring plants. Growing plants attacked by dodder were exhibited in the Education Section of the Newcastle Show. The presence of dodder seeds in seed used for lays is obviously dangerous. The photographs reproduced above show the dodder on some of the experimental plants—Fig. 2, rye-grass where there is little growth and no real injury to the host plant ; Fig. 3, red clover which is being slowly killed by the parasite ; Fig. 4, kale on which it grows luxuriantly without any apparent injury to the host plant.

The suggestion that seed containing dodder may safely be used in pasture is thus certainly misleading. The use of ready-made mixtures should be given up and the seeds should be separately bought and mixed by the farmer before sowing.

WEEDS.

Among the common farm weeds sent for identification, and for information as to their properties and how to combat them, were specimens of eyebright (*Euphrasia officinalis* Linn.). This small annual weed quickly spreads by the large number of seeds which it yearly produces before it dies. In the case under investigation the eyebright had come up in quantities all over the field. It is the more desirable to get rid of this weed, for it obtains part of its food from the useful plants in the pasture, and so far impoverishes them. Its roots seek for necessary food in the soil, and some attach themselves to the roots of other plants by suckers, which pierce the bark and thus withdraw food from the plant attacked. A number of plants, nearly related to the eyebright, in this way rob their neighbours of food which they had prepared for their own use. Lousewort (*Pedicularis palustris* Linn.) and yellow-rattle (*Rhinanthus Crista-Galli* Linn.) have this characteristic. Yellow-rattle was figured and described in the Report for 1903. Though no case of serious injury has been reported as caused by these plants, it is nevertheless important to note that eyebright and yellow-rattle sown by themselves, and thus prevented from attaching themselves to other plants, do not flourish, but die when they have consumed the food stored for them in the seeds. The eradication of weeds is often very difficult. It is not always practicable to break up a pasture and plough in the weeds deeply, though this would be the most efficient method if followed by a rotation of crops before the field was again laid down to grass. It is of course of the first importance in laying down that suitable seeds should be obtained, and that they should be free from weeds.

Weeds are not easily prevented from shedding their seeds. Hand pulling can be recommended only in small areas, or where the weed occurs in patches. Hand or horse hoeing is not practicable in pastures or densely growing crops. In the case of meadows full of weeds it is most important that the hay should be cut before the weeds have begun to form seed, though it may not be the best time for haymaking.

The use of the comparatively newly-invented seed catcher, now employed in Germany, is desirable. It can be attached to the reaping machine, and saves from dispersion in the field a large number of the seeds of useless plants. Without careful and continued attention in cleaning the field, the weeds will get the mastery. Nothing hinders their increase. Stock do not touch them, so they freely flower and seed, whereas the valuable plants in the pasture being closely eaten are not allowed, in a well-fed meadow, to run to seed.

A weed has been frequently sent to the Laboratory for information under the name of dodder, but which has no connection with the parasite properly so called. The weed is spurrey (*Spergula arvensis* Linn.). The name dodder seems to be applied to it in various parts of England, and the description and properties of the true dodder as given in books differ so much from this annual weed that it has puzzled many. It is a troublesome annual weed in corn and other cultivated fields and has obtained no less than twenty-one common names in different districts of England. It is looked upon as a pernicious weed, and has been called beggar-weed, farmers'-ruin, make-beggar, pick-pocket, poverty-weed, &c. Sir W. J. Hooker says: "Cattle are fond of this plant, and it is an object of culture in Holland." In other Continental countries the plant is frequently grown, especially on land which is too poor for anything else. It is well known that without attention it soon spreads over the whole farm. The chemical analysis of the weed shows that it is of some feeding value and that *theoretically* it is not far behind red clover. This is seen in the following analysis of spurrey and red clover:—

	Spurrey		Red clover	
	Green	Dried	Green	Dried
	Per cent.	Per cent.	Per cent.	Per cent.
Dry substance	20·8	86·0	19·8	86·0
Protein	2·9	11·8	3·6	16·7
Fat	0·7	2·7	0·7	2·4
Other nitrogenous matter	8·8	34·2	8·5	33·3
Woody fibre	6·1	27·8	5·6	25·4
Ashes	2·3	9·5	1·4	8·2

The product of spurrey hay under favourable conditions has been stated at 10 to 20 cwt. per acre, and as green fodder at 32, 60, and even at 80 cwt. per acre. The herbage of a field overrun by this weed may be safely given as a nutritious fodder, and if it be ploughed in it must supply valuable nitrogenous manure to the soil. The minute seeds of spurrey, scalded and mixed with chaff, are said to be equal to the best oil cake.

DISEASES AND INJURIES TO PLANTS.

Some members suspected from the white powdery appearance of the bark of the oak that their trees were attacked by the "beech disease" caused by the "beech coccus." The bark was therefore examined, and in each case the white powdered appearance was found to be a very common calcareous lichen, known as *Pertusaria communis*. This lichen is quite superficial and harmless, though it looks somewhat like the coccus.

The number of applications regarding diseases of crops was larger than in the previous year. Some diseases caused by parasitic fungi make their regular appearance every year. During a hot spell certain injuries were noticed, caused by the well-known rust and smut fungi. Cases of rust have been observed in cereals, raspberries, pears, mangolds, sainfoin, and roses, while smut was reported in oats. Then when the weather conditions changed and became more unfavourable another group of pests appeared. Damp and wet increases moulds and a number of other fungi like cucumber spot, bean anthracnose, plum gummosis, shot-hole in peaches, and several instances of the appearance of these fungi came under notice. All of these pests are well known, and have been described and figured in previous Reports. Some cases which were investigated must be referred to at some greater length.

COMPLETE FAILURE OF A SWEDE CROP.

Appended to the Annual Report for 1900 (Journal, Vol. XI., pp. 738—741) was a description of a turnip from Yorkshire injured by bacteria, and figures of the diseased turnip and of the bacteria were given. In the Report for 1903 (Journal, Vol. 64, pp. 297—300) a description and figures were given of a turnip attacked by the parasitic fungus, *Phoma Napo-brassicæ* Rostr. These turnips came from Lincolnshire. Turnips have this year been received from Norfolk, which have been very seriously injured by both of these parasites. The study of the Norfolk specimens has supplied additional information as to both the *Phoma* and the bacteria, which it is desirable to place on record.

The member inquired into the nature of a disease in his swedes which destroyed the complete crop of two fields,

one of 23, and the other of 26 acres. The letter contained a very careful account of the ravages of the disease, and mentioned many important points enabling the investigation to be carried out in a thorough manner.

The land, previous to sowing the swedes, was well prepared and manured, and had previously borne crops of healthy swedes. The crop came up well, grew fast, and looked very promising, being aided probably by the manures and the favourable weather in May and June. Towards the end of August a spell of hot weather set in, lasting all September, during which time the first signs of the injury manifested themselves. The tops began to shrivel and the leaves to change colour. Early in October rain appeared, producing a new growth of leaves, while the old ones died and dropped off. About the middle of October the roots began to be used, and quite a number were found to be diseased in the interior. It was useless to store them, as the heaps would heat and the diseased roots contaminate the others. About 75 per cent. were tainted inside, some rotted to a pulp, others became hollow, none were really free from disease. The member, anxious to use the swedes quickly, increased his stock, but he found that, after being cut up and put into the bullock bins and sheep troughs, the roots did not look fit for any animal to eat. They however ate them, but made slow progress in fattening.

The roots which were forwarded with the letter were carefully examined. Their odour was very offensive, and this should have sufficed to turn any animal from eating them. Roots cut in halves showed marked signs of disease. The interior was found to contain many sloughish cavities of a pale pinkish hue, and they were in the highest degree of fermentation. They were only fit to be destroyed, and it is remarkable that no injury resulted to the animals that ate them. Some specimens still bore a few leaves and these were microscopically examined, with the result that a parasitic fungus known to attack the swede turnips in this manner was found in abundance. This evidence led to the examination of the exterior of the root, and many patches destroyed by the fungus *Phoma Napo-brassicæ* Rostr. were noticed. This injury was described in the Report for 1903, and a leaflet was issued by the Society on this new disease, suggesting measures for treating it. From the history of the fungus which attacks the leaves during dry weather, it is clear that it was the primary cause of this attack. The ripe spores of the fungus were washed down by the rain to the stalks and the top of the roots, thus causing the withering of the top and the hollowing out of the root. In some cases small



FIG. 5.—Section of a diseased swede.



FIG. 6.—Portion of the section magnified.

injuries due to the common turnip fly had offered suitable places for the growth of the fungus at the base or the middle of the root. A photograph is reproduced of a longitudinal section of a diseased root showing the extent of the injury (see Fig. 5), and a small portion, A, from the edge of this section has been considerably magnified to exhibit the cavities formed by the colonies of bacteria (Fig. 6). As a result of the wet weather following a period of drought, the turnip bulbs grew in circumference, the portions of the bark killed by the fungus failed to expand like the healthy portions, and fissures resulted. These fissures, of course, were soon infested with bacteria, and though there were many distinct forms present, one was very predominant. This was separated and stained and compared with a slide, kept for reference, of the bacterial disease of turnips, described in the Report for 1900. They were found to be the same kind. There is sufficient other evidence to justify the view that the bacteria gained access to the interior through the cracks in the skin of the turnips. The pinkish colour of the slimy mass was due to a small yeast fungus which would naturally appear in a juice rich in starch and sugar, as the sap of the swede is. This yeast caused rapid fermentation, and on account of the production of gases gave off the foul smell from the roots. The attack by the *Phoma* is the first stage in the injury. The fungus appears in dry weather and on dry land. Steps should be taken to prevent the recurrence of the disease where it has once made its appearance. The diseased roots should be removed from the field and destroyed by fire or treated with quicklime to kill the spores of the fungus. The infested field should have scattered over it gas lime to the amount of two to three tons to the acre. The fungus may perhaps attack other root crops, so that it would be well to avoid the culture of roots for some seasons.

APPEARANCE OF A NEW POTATO PEST.

Plants that are universally reproduced by vegetative means, *i.e.*, by cuttings or tubers, like the potato, are thought to be exposed to some more or less pronounced degree of degeneration. It is for this reason that a change of seed is recommended to secure new vigour. Old varieties grown continually on the same land have frequently failed to produce as satisfactory crops as the same varieties grown elsewhere. The degenerative symptoms are indicated by premature ripening, yellowing of the leaves, and few and small tubers. On the other hand, no variety of potato is entirely free from disease. This has been recently proved on the Continent by Graf Arnim-Schlagenthin, who experimented with 400 distinct varieties, and found

disease more or less pronounced in every case, thus confirming on a larger scale the results obtained in the experiments carried on by the Society in connection with the prizes offered by the late Earl Cathcart (Journal, 1874, page 475). A new potato trouble was noticed this year, which has not yet been thoroughly investigated on account of the time being insufficient to reach any certain conclusion. The plants, which had prematurely turned yellow, were received from a member in Cheshire. The tubers, on being cut, showed a yellow ring somewhat beneath the skin. At present no parasitic organism has been discovered, though a large series of diseased specimens have been examined. The disease, it was ascertained, was identical with the so-called "yellow disease" observed on potatoes in Ireland. Similar diseased specimens were also received from Scotland. In some cases a *Fusarium* fungus was found which, as it was repeatedly present, may be one of the causes. But other instances gave no indication of the cause. In Germany a disease known as "Blattrollkrankheit" showed similar symptoms, and inquiries have been made from official bodies in that country, so that the investigation is still proceeding. If any members notice their potatoes going off in a similar way they are requested to forward specimens to the Laboratory for investigation. Tubers showing this yellow ring have been kept and will be grown under observation next year, when a fuller report may be looked for.

DISEASE IN SEA KALE.

A destructive pest appeared in various parts of the country, towards the end of the sea kale season. The shoots became spotted dark greenish brown, the spots were soft to the touch, and the decay made rapid progress. On examination a fungus very common on decaying and injured tissues, *Botrytis cinerea*, was found to be present, and it was undoubtedly the primary cause. Later, numerous bacteria brought on the decomposition of the attacked parts and, increasing, destroyed the whole shoot. The conditions under which sea kale is grown, especially the means adopted to produce blanched shoots, are very favourable to the growth of *Botrytis*. The "Tops" which are placed over the plants to seclude the light ensure a close atmosphere with practically no ventilation. Such treatment produces a weak, long-drawn plant which is readily sought for by snails, grubs, etc. These pests, by damaging the plants when feeding, provide spots for the fungus to attack. It was suggested that all the plants of sea kale should be examined, that the diseased tops be cut off, with other diseased parts, and burned. The shoots but little attacked might be cut quickly for use. Light and air would

arrest the growth and spread of the fungus, but would of course be detrimental to the white blanched shoots, as they would soon turn green and unfold their leaves. Where diseased shoots have been cut away it is necessary to powder the cut surface and the soil under the top with lime. This would destroy any grub or prevent snails getting at the plants. Occasional ventilation would prove of benefit, but care should be taken not to admit light at the same time.

SMOKE INJURY TO OATS.

Oats growing on a field adjacent to iron works showed marked signs of an injury to the leaves, which turned yellow in part and became limp. The plants seemed also to make no progress.

Microscopically examined, no parasitic agent was found, but the tissues showed that the injury was due to physical causes, such as smoke or fumes. Smoke of coal rich in sulphur, or from the kilns of iron works, are very destructive to some plants. It is remarkable that other plants do not suffer from such smoke. In the case under observation no injury was done to cocksfoot or the young shoots of the surrounding hedges. It is impossible to suggest any means to combat an injury of this kind. Perhaps plants may be found that are less affected, for the pastures around the works near Middlesbrough are quite vigorous.

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WILLIAM CARRUTHERS.

The Laboratory,
44 Central Hill, Norwood, S.E.

ANNUAL REPORT FOR 1908 OF THE ZOOLOGIST.

INTRODUCTION.

JUDGING from the applications for advice received by the Zoologist, the past year would seem to be rather characterised by the non-appearance of some of the more familiar pests. It is always possible, however, that a pest has been as troublesome as before, but that it and its treatment have become so well known to the agriculturist that he ceases to inquire about it. This may be the case with the pear midge, of whose depredations few complaints have been received this year.

The farm pest which seems to have been most troublesome is the root-fly—an insect which has often been dealt with in these Reports. A rather bad case of Hessian fly attack is also worthy of record.

The investigation of a disease of garden peas, due to a thrips, which seems to be little known and which certainly has not received the attention it deserves, occupied much time during the summer. A large number of other pests were complained of in various localities, and the more interesting are noted in the following pages. Several of them attacked forest trees.

The notes on ticks in the Zoologist's Report for 1906 has resulted in a great many specimens being sent to him annually from all parts of the world from those who are studying the diseases conveyed by these creatures and who desire to have the species identified.

THRIPS ON GARDEN PEAS.

During the past summer many cases of thrips on peas came under my observation. Most people seem to be unacquainted with the disease, and though I have found an occasional reference to it, and there is a Board of Agriculture leaflet on the subject, all the authoritative works on economic entomology are silent about it. Uzel, who has written a monograph on this group of insects—unfortunately in a little known language, Bohemian—gives a list of plants on which the various species of thrips have been found, but the pea plant does not appear in the list. The German entomologist, Kirchner, is the only one I can find who even mentions it. I believe an article upon it by Westwood appeared many years ago, but I have failed to unearth it. The extent to which this serious pest has been overlooked is somewhat remarkable, for it is quite impossible that the injury it does can have escaped observation. No doubt the

very small size of the insect has something to do with it, for it is difficult to credit it with the powers of destruction it really possesses. Probably the failure it causes has generally been put down to obscure weather influences, or in some cases to a fungus attack, especially as a fungoid disease is often found associated with it; but that it is really destructive in itself any member may very readily convince himself by the inspection of a few vegetable gardens next season, when once the nature of the attack has been pointed out.

Appearance of the disease.—The disease is recognised by the blighted and distorted appearance of the developing pods, which, instead of being uniformly green and straight, are marked with white and straw-coloured blotches and curled to one side. Closer examination shows them to be infested by numbers of small yellow maggot-like creatures. There is no



FIG. 1.—The Pea Thrips. The winged female (somewhat too broad, owing to compression) and the larva, both greatly magnified. The natural size is indicated in each case.

absolute destruction of tissue; if the leaves are perforated or eaten away, this is due to some other pest, but the general effect is a very unhealthy appearance.

To understand exactly what has happened, it is necessary to study the structure of the pea-flower and see how the pod arises. In the very centre of the flower will be found the ovary, or future pod, enveloped in a sheath, from which spring the stamens. Next comes the corolla of white petals, consisting of a large upper petal or "standard," two side petals or "wings" (with dark patches on them) and two lower petals fused together to form a "keel." Outside this is the little five-pointed green calyx. Very soon after fertilisation has taken place, the standard and the wings fall away, and the ovary begins to develop into the pod, generally carrying with

it, as it grows, the keel, now detached from the flower base, so that a young pod, say an inch long, is still surrounded by the calyx and the remains of the stamen sheath at its fixed end, while its free end is capped by the detached keel. If diseased, the little yellow larvæ of the thrips will be found mostly concealed under the shelter thus afforded at either end of the pod, and from these hiding places the injury begins, and gradually advances over the whole pod. Discoloured patches appear, interrupting the even greenness which characterises the clean and healthy pod. The patches, which are generally whitish, look very much as though the surface had been nibbled away. This is not the case, however, for if the outer skin of the pod be peeled off, it is found to be entire, even over the injured portions. The insects do not bite, though the contrary is sometimes stated. They pierce very minute holes in the skin and suck the sap, and the discolouration is due to the injury thus inflicted on the subjacent tissues. The discolouration is quickly followed by distortion, the pod



FIG. 2.—A young diseased pod, enlarged.

losing its straightness and curling in a very unsightly manner. Fortunately, as the disease is on the outside of the pod, the seeds are the last to suffer, and quite tolerable peas can often be taken from very disagreeable-looking pods. For ordinary purposes, however, the appearance of the pods is almost as important as that of the peas themselves. Moreover, a stage is often reached where a fungoid disease aggravates the injury done by the thrips, and the whole pod becomes blackened and decayed. When this is the case with the older pods, it will be found that many of these at an earlier stage are killed outright and come to nothing, so that the whole yield may be very greatly reduced.

The insects concerned.—The minute insects known as thrips constitute an order by themselves, the *Thysanoptera*. Haliday investigated the English species about seventy years ago, and no one in this country seems to have paid much

attention to the group since, though some Continental entomologists have done excellent work upon it. It is quite possible that our ideas with regard to some of the English species require revision. According to Kirchner the species attacking the pea is *Thrips cerealium*. This ought, of course, to be a species attacking corn, and it has often been identified—probably quite correctly—as the cause of injury to wheat in this country. Uzel, however, states that he has never found it on corn in Bohemia, where the common corn thrips is *T. secalina*. About fifty British species have been described, all very small insects, less than a twelfth of an inch in length. Most of them are chiefly in evidence in hot-houses, but among outdoor crops three of them attack wheat, potatoes, and onions respectively. Some species are wingless; in others the females only possess wings, while both sexes of yet other species can fly. The wings are very characteristic; they are four in number, and are extremely narrow, and fringed by long hairs. The legs are short, and end in small bladders; indeed, the insect is known in Germany as the “bladder-foot.” The metamorphosis is very slight, and the larvæ are much like the adults, except in colour and in the absence of wings. Some years ago there was a great deal of controversy as to whether these insects were really vegetable feeders at all, for apparently well authenticated instances were adduced of species feeding upon scale insects, and upon midge larvæ. It is now quite certain, however, that the carnivorous species, if any, are exceptional, and that most of them feed upon and often greatly injure plants.

Observations during the past season.—When the disease was first noticed, in July, all the peas were well advanced in growth, and it was unfortunately impossible to note the commencement of the attack. The diseased appearance of the pods above described was well established, and the larvæ were readily found. They were less than one-sixteenth of an inch long, orange-yellow in colour except for the last two segments, which were black. The eyes, especially in the younger larvæ, were of a conspicuous red hue. They were fairly active, and were often seen wandering over the pod, but when feeding they were necessarily stationary, with their piercing jaws plunged into the vegetable tissue.

Nothing was to be learnt concerning the course of the disease from the older pods, so the flowers in all stages of development were carefully examined. Very few of the adult insects were seen at all, and still fewer were caught, for they were very active and flew away immediately on discovery. Such as were seen were in the flowers, and were nearly black in colour.

A great deal of search was necessary before the eggs were found, a large number of leaf-buds and flowers, old and young, being dissected and subjected to microscopic examination. At last they were found, and uniformly in the same situation. In examining the stamen sheaths of fully developed flowers, pairs of minute red specks attracted attention, and these turned out to be the eyes of very young larvæ protruding their heads from the surface of the sheath, in the substance of which the eggs from which they were hatching were buried.

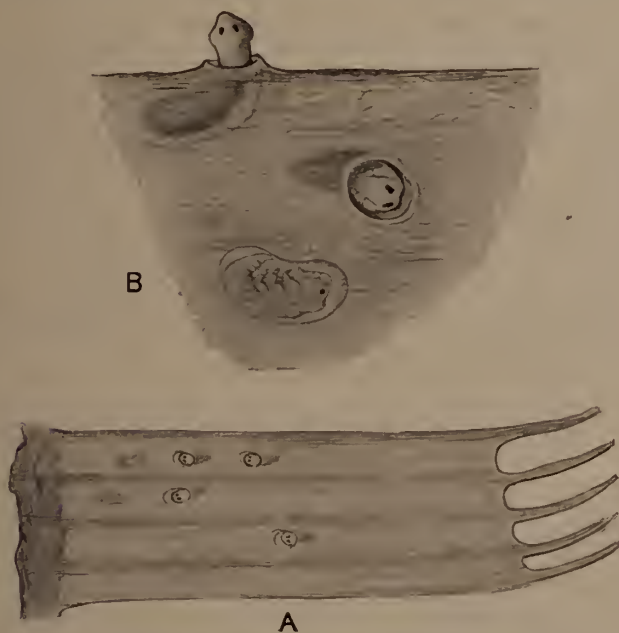


FIG. 3.—A. Part of stamen-sheath containing the embedded larvæ
B. A portion highly magnified.

These little protruding heads with the already conspicuous eyes had a very quaint appearance, and the examination of a great many stamen-sheaths showed the larvæ in various stages of development and emergence. When their position was once discovered there was no difficulty in finding any number of examples, many stamen-sheaths showing twelve or more of the developing larvæ.

I am by no means sure that this is the only situation in which the eggs are deposited, but I entirely failed to find them anywhere else, though from the progress of the disease it seemed likely that some were laid in the very young shoots

before the flowers were developed. At all events the origin of the disease of the pods was clear enough. The female must crawl into the flower and pierce the stamen-sheath at intervals with her ovipositor, depositing an egg at each operation. While the larvæ are developing, so is the pod, and their future feeding ground is close at hand. When they emerge they have only to crawl on to the adjacent pod which they pierce with their jaws, abstracting the sap and mottling the green surface with white patches, at first only at the base, but later at both ends where they have convenient shelter if disturbed. The pod soon looks unhealthy and becomes distorted.

Treatment.—It is very evident from the nature of the disease that it is most important to notice the commencement of the attack and deal with it then. The date when it was first observed made this impossible last season so that observations of the early stages must be deferred till next year, when pea-plants will be kept under observation from their first appearance above ground. All that is possible at present is to state any facts bearing on the origin of the disease and any measures which are useful in mitigating its ill effects.

Where do the insects come from? Is the soil where diseased peas have been grown a danger to next year's plants?

Now the thrips do not pass the winter in the larval state, but as mature insects, which certainly do not live under the soil but are found, if at all, in flowers or under the bark of trees. During attack I never found the larvæ on the roots of infested peas, and even if they could live there very few roots of the old crop are in the ground at the time the seeds are sown in the ordinary course of pea cultivation. It would seem that the only possible direct connection between two attacks would be in the use of pea-sticks a second time with the thrips concealed under the bark. During November I searched for them in such situations and found two or three species of thrips, but I am not aware that the disease only declares itself after sticking. The attacks are probably not directly connected at all, but arrive quite from the outside, in which case preventive measures would be useless. The insect is obviously common and widely distributed, whether or not the species is really *Thrips cerealium*. This point requires further investigation, as the larva of that species is described as yellow, without any mention of the black terminal segments. The best hope lies in the discovery of some treatment which shall check it when it first begins to attack the peas.

On the already diseased plants various washes were tried with very slight success. Paraffin emulsions did not reach any large proportion of the insects, which were too well hidden. Arsenic washes were hardly indicated in the case

of sucking insects, but they were tried, with no very beneficial result. In some varieties of pea, moreover, the pods would not receive a uniform deposit of the spray and remained largely unaffected by it.

Distinct improvement, however, resulted from *topping* the plants, just as beans are topped when suffering from aphids. The topmost shoots seemed to be the main seat of the attack, and the disease was certainly mitigated by their removal. In some cases badly diseased plants so treated put forth a late crop of perfectly clean pods.

"LEATHER JACKETS" OR CRANE FLY GRUBS.

The problem of dealing with root-feeding pests in grass land is always cropping up. Any really drastic measures are precluded, or grass land ceases to be such, so that more or less indirect methods of treatment have to be resorted to.

With the assistance of Mr. F. W. Foreman I undertook some experiments in September last, the results of which it is as well to record though they were mainly negative. Their object was twofold :—

(a) To determine if any treatment would kill the grubs without injuring the grass.

(b) To see if by any means the grubs could be induced to come to the surface so that they might be collected and killed.

A variety of compounds were experimented with, including the vapours of hydrocyanic acid and carbon bisulphide, and solutions of formalin, ammonia, carbolic acid, toluene, and other substances.

A large number of "leather-jackets" were obtained and the direct effect upon some of them of the various insecticides was observed. Others were introduced into an enclosed plot of grass land, cut off from the neighbouring ground by a sheet-iron fence sunk some inches into the soil.

Hydrocyanic (Prussic) acid.—As the cases immediately under consideration concerned certain circumscribed areas—the putting greens of golf links—it seemed worth while to try whether the vapour of hydrocyanic acid could be made to permeate the soil and kill the grubs underground. In order, therefore, to determine whether sufficient diffusion of the gas would take place to have an effect at any considerable distance, generating tubes were buried, and other tubes containing potassium nitrate were also inserted into the ground some distance away. If the vapour reached them in the soil, they would, on analysis, show traces of its presence. No such traces were found. The soil was somewhat heavy, and therefore more unfavourable to diffusion than many, but the experiment was not encouraging.

Carbon bisulphide.—"Leather-jackets" subjected to the fumes in the laboratory were much convulsed and evacuated copiously. The following morning they were limp, and barely alive. Contact with the fluid killed them. It was obvious that the attenuated vapour which it might be possible to diffuse in the soil would be of little use.

Toluene affected the grubs exactly in the same way as carbon bisulphide.

Carbolic acid.—This substance is generally regarded as particularly destructive of insect life. Moreover, it was found that a weak solution (up to .5 per cent.) had no visible injurious effect on the grass. Unfortunately, however, neither had it on the grubs. Leather-jackets immersed in it for some time seemed unhurt, and were alive and fairly strong the next morning.

Formalin.—Solutions of .5 per cent. and even .2 per cent. discoloured and injured the grass, and further experiments with it were discontinued.

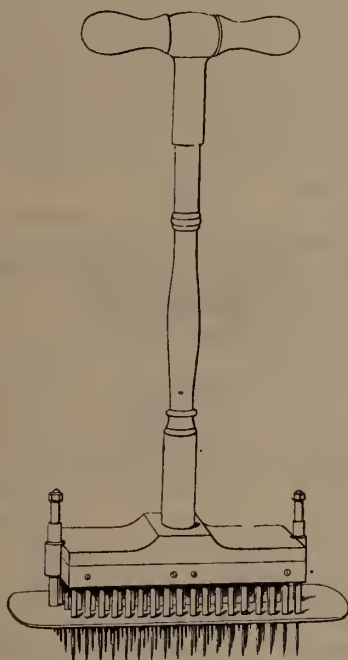
Ammonia.—Leather-jackets have often been alleged to be particularly susceptible to the destructive effects of this insecticide, from which some good results were anticipated. A .5 per cent. solution did not hurt the grass, but an application of a 1 per cent. solution discoloured it, and, in addition to the fear of permanent injury, there was a danger that the more delicate grasses would be killed and the coarser species encouraged. Moreover, the direct effects on the grub as ascertained in the laboratory were not at all satisfactory. Subjected to the vapour of a 1 per cent. solution they were only slightly inconvenienced. Immersed in it, they evacuated so profusely as to become almost transparent, but they were all alive the following morning.

The above experiments made it quite clear that the grubs are remarkably difficult to kill, and that it is highly improbable that any substance will be found capable of destroying them in the ground without greatly injuring the grass.

Some of the grubs obtained were sent *in situ*, in a turf enclosed in a square tin box. They were all found on the top of the turf when the lid was opened in the morning, and this fact suggested the possibility of inducing the leather-jackets in infested ground to come up to the surface by covering the ground over night. No consistent results were obtained, however, nor did copious waterings with any of the insecticides experimented with bring them to the surface with any uniformity. That they frequently come up and wander about on their own account, especially in the early morning, is a fact well known, and advantage should always be taken of this habit when it is observed. Rolling at such times cannot fail

to be useful. Apart from this it seems impracticable to make war upon the creature in the grub stage in grass land.

It is generally agreed that crane-flies have a partiality for certain kinds of ground in which to lay their eggs, and that rank grass on ill-drained soil is especially sought out for that purpose. It is worth noting, however, that a contrary belief existed among observers on the spot in the case which was under investigation. The fly, it was asserted, might be seen to emerge from the pupa case, pair, and deposit eggs in the immediate neighbourhood all within a few minutes, then flying away to be at once picked off by some member



Witte's Implement. After Judeich and Nitsche.

of the huge flock of sea-gulls, which were attracted by the plague of insects. Unless the movements of the insects were wrongly interpreted, this observation is one of considerable importance, but I am bound to say that it was not corroborated by anything that came under our notice. For some time after emergence the fly appeared very weak and helpless, and when it did begin to move it made a very lame and halting progress over the ground, in a manner which might suggest the laying of eggs. Exact

observations on this point would be of interest. In an attack of the common crane-fly, *Tipula oleracea*, there are, of course, early and belated individuals, but the great bulk of the flies emerge within the space of a few days, though the precise date will vary with the season. About the second week in September is perhaps the most usual time, and it seems likely that vigorous action against the pest at that time would have a considerable effect. The grubs come up to pupate, and the chrysalids stick up half out of the ground. An observer described them as standing up "like matches" in multitudes on the affected greens, and this, it is stated, is only to be observed during two or three days. Constant rolling or even brushing at such times would seem bound to kill great numbers. It might be also possible at such a period so to dress the land as not only to kill the weakly flies as they emerge but to deter survivors from laying eggs. At all events, where the attack is constantly recurrent it is clear that all energies should be concentrated on dealing with the pest during these few days.

In the particular case of lawns or putting greens it would seem likely that a machine which was long ago devised for use against the cockchafer grub in Germany might be used with great advantage. Unfortunately I can give no particulars as to where it is to be obtained. The accompanying figure of it (see page 329), which appeared in my Annual Report for 1894, is taken from the well-known work by Judeich and Nitsche, who state that its cost is about fifteen shillings. Its object is to pierce the soil with a number of needles, and its mechanism can be easily understood from the woodcut. It would probably be most effective in August, when the grubs are almost full grown.

FOREST TREE PESTS.

Beech.—Complaints have been received from many quarters of the felted scale, *Cryptococcus fagi*, one of the most familiar and most troublesome of tree pests. The felted white matter found chiefly on the main trunk and larger branches of infested trees is too well known to require re-description. In the summer, the scale insects of all ages may be found among the felt, and some larvæ may be found at almost any time of the year, but the great majority seem to hatch out in May.

Fortunately the insect succumbs pretty readily to various washes, and paraffin emulsions, especially if applied in May, are immediately beneficial. Mr Gillanders adds flowers of sulphur and turpentine to the ordinary paraffin emulsion.

In July I received specimens of beech twigs from young trees in a nursery suffering from an attack which is quite new.

to me. The shoots contained numbers of grubs, obviously dipterous, and apparently belonging to some Cecidomyid fly. Indeed they closely resembled the larvæ of the pear midge, and had the same power of leaping by applying head and tail together and separating them suddenly. Most flies of this group make definite malformations or galls on plants, and the grubs live inside the galls, but in the present instance the grubs were quite free among the leaves of the growing shoots, and no galls were observable. I find no such insect described among the recognised beech pests, and as I was unsuccessful in hatching out the larvæ and received no further information with regard to the attack I can only note the disease as one which is at present unidentified.

Willow.—Two or three cases of severe attack by the Giant Willow Aphis, *Lachnus viminalis*, were reported. The insect is so large an example of the group that it becomes a very conspicuous object when present in large numbers. On small trees it may be dealt with by rubbing the infested branches

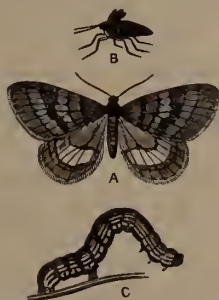


FIG. 4.—A, Male Winter moth. B, Female, natural size. C, Caterpillar, enlarged.

with the gloved hand or with a cloth, while a paraffin emulsion wash is the best treatment for larger trees. A very characteristic concomitant of the disease is the presence of large numbers of wasps. They are not attracted by the honey-dew—which even ants reject—but prey upon the aphides themselves. In one case the complaint was not so much of the injury to the willows as of the annoyance caused by the wasps.

Lime.—In June a number of caterpillars from lime trees which had been more or less defoliated for some years past were sent for identification. They proved to be caterpillars of the Winter Moth, *Cheimatobia brumata*, a very familiar pest on fruit trees, though I had not previously met with a similar case of attack on the lime. Not only, therefore, was it desirable that what had become an annual disfiguration of the lime trees should be prevented, but the infested trees must have been a

standing danger to all the orchards in the neighbourhood for several years.

This seemed to be a particularly appropriate case for banding the trunks, and this measure was decided on, though the trees were large and about five hundred in number.

As is well known, the female winter moth cannot fly but crawls up the trunk to lay its eggs on the shoots, and the sticky material on the bands prevents its reaching its destination.

Coniferous Trees.—Two cases of Pine-beetle attack (*Myelophilus piniperda*) were reported early in the year. It was noticed that numerous young shoots had fallen off and strewed the ground, and these, on examination, showed signs of the work of the beetle. The following extract from my 1903 Report with regard to it may be reprinted here :—

“Pine trees, especially the Scotch fir (*Pinus sylvestris*), are much injured by the feeding of this beetle in the young shoots, which are killed by its boring. The shoots are not attacked for the purpose of breeding, for which the bark of dead or dying pine trees is utilised. Under such bark the female beetle bores a tunnel some four inches long, its direction lying up and down the trunk, except for a sharp bend at the entrance end. Along this tunnel the eggs are laid, and the grubs which hatch out form smaller galleries more or less at right-angles in the soft inner bark, turning to pupæ at the blind ends of the galleries, and eating their way out through the bark as beetles, some in July, but most in the following April or May.

“It follows that the best way to prevent the beetle from attacking the shoots is to deprive it of all suitable breeding places. Dead pines must never be left lying on the ground with the bark on—unless, indeed, as traps to induce the beetles to lay in them, in which case the bark should be stripped off and burnt with the contained grubs early in June. It is best to fell and strip failing pines, and to attend to the stumps of previously felled trees.”

The other coniferous pests complained of have for the most part belonged to the aphid group, the larch-bug being the most familiar example. From time to time I have asked members to inform me of any case of larch-bug disease where no galled spruces could be found in the neighbourhood, but no such case has so far been brought to my notice. According to the present state of our knowledge the spruce is the principal host of this insect, and it is on that tree alone that both sexes are to be found, but winged females migrate to the larch, and there set up larch-bug disease.

The fact that many members of the aphid tribe alternate between two plants, the one known as the principal host, and the other as the intermediate host, is obviously of great practical importance.

In May some twigs from Silver Fir (*Abies pectinata*) were sent for examination. They were attacked by a *Chermes* which seemed to me to agree with the description given by Cholodkovsky of *Chermes coccineus*, a form which alternates

between the spruce and the larch, but which hitherto has only been found in Russia. Determinations from a single stage of these insects, however, are very unsafe, and it is probable that the chermes was *C. piceæ*, which, according to Mr. Gillanders' recently published work, is not rare on the silver fir. Very little is known about this species, but it is believed that the silver fir is the intermediate host and that the principal host is as yet undiscovered.

WARBLE FLY.

In a Report to the Council on May 6 I called the attention of members to some extremely interesting experiments recently conducted in Ireland by Professor Carpenter, and especially to one conclusion to which that experimenter had come, namely that *preventive* smearing was useless, and a waste of time and money. Much dissent from and much adverse criticism of this conclusion has arisen in many quarters. The matter is clearly one of very great practical importance to the cattle owner, who may be wasting considerable sums of money annually. It may be useful here to point out certain matters which appear to have been largely overlooked in the discussion which has arisen, but first I will briefly state one of the experiments which led Professor Carpenter to his conclusion.

(1) Six yearling heifers smeared *all over every day* with tar and train-oil smear from May to September, 1906, had an average of 30·16 warbles.

(2) Five yearling heifers untreated during the summer 1906 had an average of 31·20 warbles.

Now the first criticism which is usually passed is that a few experiments on a small scale prove nothing. But surely there is a fallacy here. If a cow is smeared and does *not* get warbled nothing is proved, for there might be other reasons for its escape—such as the absence of the fly. But if the cow is smeared and *does* get badly warbled, something is absolutely proved, namely, that the smear did not keep off the fly. Of course it is open to an objector to say that the dressing was not properly done, but this does not sound convincing. Is it likely that six animals specially treated for experimental purposes were less carefully smeared than cattle would be in the ordinary routine? And what grazier smears his cattle all over every day from May to September? Moreover the dressing used was that most usually recommended and considered most effective. I confess that if this experiment stood alone and unsupported—which it by no means does—it would cause me, if I were a grazier, to make a very strict inquiry into the evidence in favour of

preventive smearing before spending more money on it, and I am bound to say there are weak points in that evidence, which seems largely to rest on general impressions of a beneficial result, unsupported by any actual proof.

The outcry which arose when these experiments were published took two forms. Some objectors appeared to hold that what a distinguished economic entomologist had stated twenty-four years ago, and what had been repeated annually ever since and largely acted upon, was established once for all, and it was almost sacrilege to question it. This, of course, is quite unanswerable. There is another class of objectors, however, who deserve the most serious consideration, large and highly intelligent graziers who during a long experience have thought that their cattle benefited by preventive dressing. The only question is, can their impression be mistaken, and have they any definite *proof*? As an example of the inconclusiveness of much of the evidence I will quote a statement given by Mr. Theobald as received from an East Peckham cattle owner, who had smeared his cows but not his heifers. He says: "I now find that those cows smeared show no bots in the following spring, or at any rate only an occasional one, while my heifers, which do not get done, owing to the labour of catching them in the meadows, show great quantities." But observe that in Professor Carpenter's experiments seven cows *untreated* in 1906 had an average of 3·3 warbles, while five yearling heifers *untreated* had an average of 31·2 warbles! Obviously it is no use comparing cows with heifers.

Now what I want to point out is this. The large graziers, to whom the matter is of great importance, can settle the matter definitely, but only in one way, namely, by refusing to trust to mere impressions, but by deliberately leaving certain animals of each class *untreated*, and comparing their condition with that of animals of the same class which have been regularly dressed. I do not gather from the strictures I have read that they ever do this, and yet surely nothing could be more simple. If the *untreated* animals are much more warbled than the others there will be definite grounds to go upon, but to trust to a general impression of beneficial results is extremely unsafe, and may be leading to an annual waste of time and money. The particular point here discussed is by no means the only matter of interest in the account of these very interesting experiments, which every member ought to read for himself. It is to be found in Vol. VIII. of the Journal of the Department of Agriculture and Technical Instruction for Ireland. Among other things it definitely establishes the fact that the eggs of the warble fly are laid

principally on the legs, and not, as was formerly believed, along the backs of the cattle.

MISCELLANEOUS NOTES.

Wasps.—I have received information from more than one quarter that prizes had been locally given for the destruction of queen wasps during the spring and that the plague of wasps in the summer was certainly less than usual. This has undoubtedly been the case in my own neighbourhood. Of course a few such cases may be mere coincidence and prove nothing, but it would be interesting to collect the experiences of all those neighbourhoods where the destruction of queen wasps was encouraged and compare them with others where no such measures were taken. It is well known that only the queens survive the winter, and that each individual found living in the spring is the potential foundress of a nest, and it is reasonable to suppose that a determined raid on the insects at this time must result in a noticeable reduction of its numbers later on.

Pear midge.—Compared with the last few years I have this year received remarkably few complaints of the pear midge. This is very likely due to the fact that members are now quite well acquainted with the pest and no longer write to inquire as to its identity. Possibly, however, it has really been less troublesome during the past season, and stringent measures have had some restraining effect on it. In any case there is no reason to relax vigilance with regard to it, and all fruit growers should watch for its appearance in May next and do their utmost to eradicate it if it appears.

Logan berries.—Cases of attack on logan berries by the raspberry beetle (*Byturus tomentosus*) were reported. Though the effect of this pest is manifest in the fruit, the attack really takes place when the plant is in flower, and it is at that time that most can be done to combat it. Those who have had their logan berries—or raspberries—attacked by this troublesome pest should look out for the beetle when the plants are in bloom next year, when numbers of the insects may be shaken down and destroyed.

Cockroaches.—Some members seem still happily unacquainted with these unpleasant insects, which have several times been sent for identification during the past year, and have been accused of depredations of which they are entirely innocent. The common house-cockroach, more often called the "black beetle," is a too frequent nuisance in kitchens, getting into the flour and other food-stuffs, but it does no absolute harm. It is not black, but a dark brown colour; nor is it a

beetle, for it belongs to the Orthoptera, and is akin to the cricket. It is about an inch in length.

Meal-worms in pigeon guano.—A member who had acquired a considerable quantity of pigeon manure from an old tower found it full of what he took to be wire-worms. They were, however, the somewhat similar grubs known as meal-worms—apparently the common species, though this was not definitely ascertained by rearing. Their occurrence in such a situation was curious, but they would probably be quite harmless to plants, though it would be undesirable to utilise the infested guano in or near the neighbourhood of buildings. The fact that these grubs are a favourite food of birds makes their occurrence in large numbers in a pigeon-infested building the more remarkable.

Weevil grubs at the roots of clover.—Two cases were reported of clover attacked by root-feeding grubs, which proved to be the larvæ of *Sitones*. The weevil is common enough as a pest on the clover leaves, which it notches in a characteristic manner, and its grub is known to feed on the roots, but it is seldom that noticeable harm is done at this stage of the attack.

CECIL WARBURTON.

Zoological Laboratory,
Cambridge.

THE WOBURN EXPERIMENTAL STATION OF THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

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FIELD EXPERIMENTS.

CONTINUOUS GROWING OF WHEAT (*STACKYARD FIELD*), 1908 (32ND SEASON).

AS mentioned in last year's Report (Journal R.A.S.E., Vol. 68, 1907, pp. 242-5), at the close of the period of thirty years' continuous experimenting with wheat and barley (1877-1906), certain changes in the plan of manuring were introduced in 1907 with the object of simplifying the work and of bringing it more in conformity with agricultural practice. The present season (1908) may, therefore, be taken as the one in which the changes introduced might be expected for the first time to show any effect.

The wheat land, after the usual preparation, had farmyard manure applied to plot 11b on October 16, 1907, 100 lb. of

ammonia (as ascertained by analysis of the manure itself when put on) per acre being supplied. It may be of interest to note that the manure, made in feeding boxes during the early part of the year, weighed, on March 19, 1907, when taken out of the boxes and put in a heap, 49 cwt. 2 qrs. 7 lb., and when removed on October 16 (after being all the time covered over with earth), 26 cwt. 2 qrs. 7 lb., the loss in weight being thus 47 per cent. The manure was ploughed in at once after spreading, the actual quantity going on the land, to supply 100 lb. ammonia per acre, being 5 tons 13 cwt. per acre. On November 5 "Square Head's Master" wheat was drilled, at the rate of 9 pecks per acre, the seed being previously dressed with sulphate of copper (bluestone). Mineral manures were applied to plots 4, 5, 6, 8, 9, and 10a at the same date. November was a cold and wet month, and it was December 5 before the wheat began to show. Hard frost followed early in January, 1908, and at that time plots 8a and 8b (mineral manures with ammonia salts, but no lime), were almost blank. On February 21 rape dust was applied to plot 10b, the quantity being just short of 4 cwt. per acre. The nitrogenous top-dressings were given to the various plots on May 11-12 and June 4, the heavier applications going on in two dressings. By the end of May the No. 2 plots showed very interesting differences, for while 2a was almost bare, 2aa had a small crop on it, 2b a good one, and 2bb the best, the influence of lime thus clearly telling. The wheat came into ear by June 19, and at the end of July, owing to the hot weather then prevailing, the crop ripened fast, so that all the plots, with the exception of 2a, 2aa, 5a, and 8 (ammonia salts) were cut on August 11. By August 26 all plots were carted and stacked.

The wheat yield, it will be seen, was quite a good one, taking it all round, the unmanured produce being $12\frac{1}{2}$ bushels per acre, which is nearly 2 bushels above the average of the last ten years. The highest yield was $28\frac{1}{2}$ bushels per acre, with minerals and 2 cwt. per acre (practically) of nitrate of soda, the same minerals with 1 cwt. per acre of nitrate of soda giving (plot 6) 26.2 bushels. Farmyard manure produced 24.3 bushels, but rape dust only 16.6 bushels. It would appear already that the quantity of rape dust used (4 cwt. per acre) is insufficient to give a full crop, and is not equal in effect to 1 cwt. per acre of nitrate of soda (plot 3b) supplying the same amount of ammonia, this latter giving 23.7 bushels. As between 1 cwt. per acre and 2 cwt. per acre of nitrate of soda (plots 3b and 3a) there was only a difference of 2.6 bushels in favour of the heavier dressing. A comparison of plots 10a and 11a would indicate that, so far, the presence of phosphates is

more essential than that of potash, but it is too early yet to come to a definite conclusion on this point.

Coming lastly to the sulphate of ammonia plots, it will be seen that while sulphate of ammonia when used alone (plot 2a) gave no crop, the small dressing of 5 cwt. of lime per acre yielded 3 bushels, and the 2 tons of lime per acre applied as far back as 1897 (plot 2b) gave as much as 22.9 bushels. The renewed application in 1905 (plot 2bb) did not yield so well, though earlier in the year the crop looked the better one. As regards sulphate of ammonia used with minerals, there was almost no crop (plots 8a and 8b) where no lime was used and a heavy dressing of sulphate of ammonia given, but the addition of lime, even at so low a rate as $\frac{1}{2}$ ton per acre, gave a marked increase (plots 8aa and 8bb), 1 ton of lime (plot 5b) doing still better. It is becoming increasingly clear that heavy dressings of sulphate of ammonia when continuously applied will "run land out" where lime is deficient, even when mineral manures are applied, and that the true remedy is liming. There are, further, indications already that $\frac{1}{2}$ ton per acre of lime is not sufficient, but that at least 1 ton per acre should be used.

The full harvest results are given in Table I., page 340.

The corn, after dressing, was valued, and the prices assigned to each plot are given in Table I. The highest grade comprised mainly the wheats grown with sulphate of ammonia, these being the strongest samples, though the yield, it must be remembered, was in several cases almost insignificant. Farmyard manure and rape dust alike gave very fair quality. The wheats generally were in good condition.

CONTINUOUS GROWING OF BARLEY (*STACKYARD FIELD*), 1908 (32ND SEASON).

The alterations in the plan of manuring mentioned in the case of the continuous wheat experiments just set out apply also to the barley crop. The land was ploughed in October, 1907, and again in February, 1908. Farmyard manure—to give 100 lb. ammonia per acre—was ploughed in on plot 11b on February 20. When removed from the feeding boxes on March 19, 1907, this weighed 48 cwt. 3 qrs. 21 lb., and when put out on February 20, 1908, 30 cwt. 0 qr. 3 lb., the loss of weight being thus nearly 39 per cent. The actual quantity applied was 6 tons 9 cwt. per acre. On March 24 "Chevalier" barley was drilled at the rate of 9 pecks per acre. Mineral manures went in on April 9, as also rape dust (plot 10b). April was a wet and cold month, and the barley suffered a great deal, especially on the weaker plots. Indeed the crop never properly recovered from the check received at the start, and

TABLE I.—*Continuous Growing of Wheat, 1908*
(32nd Season).

(Wheat grown year after year on the same land, the manures being applied every year.)

Stackyard Field—Produce per acre.

Plot	Manures per acre	Head corn		Tail corn	Straw, chaff, &c.	Value per quarter on basis of 33s.	
		No. of bush.	Weight per bushel	Weight			
1	Unmanured	12·88	Lb. 60·75	Lb. 15	C. q. lb. 10 0 1	s. d. 32 0	
2a	Sulphate of ammonia (=25 lb. ammonia)	—	—	13	1 2 25	33 0	
2aa	As 2a, with 5 cwt. lime, Jan., 1905	3·0	60·0	4	4 2 12	30 0	
2b	As 2a, with 2 tons lime, Dec., 1897	22·9	61·2	28	12 0 0	32 0	
2bb	As 2b, with 2 tons lime (repeated), Jan., 1905	18·7	59·2	32	13 2 11	32 0	
3a	Nitrate of soda(=50 lb.ammonia)	26·3	57·0	30	19 3 14	30 0	
3b	Nitrate of soda(=25 lb.ammonia)	23·7	59·6	20	17 0 18	32 0	
4	Mineral manures (superphosphate, 3 cwt.; sulphate of potash, ½ cwt.)	11·3	61·2	14	9 3 17	32 0	
5a	Mineral manures and sulphate of ammonia(=25 lb.ammonia)	12·9	61·5	12	8 0 27	32 6	
5b	As 5a, with 1 ton lime, Jan., 1905	18·4	61·0	20	14 1 27	32 0	
6	Mineral manures and nitrate of soda (=25 lb. ammonia)	26·2	61·1	22	21 0 27	32 0	
7	Unmanured	12·4	60·7	17	9 2 6	32 0	
8a	Mineral manures and (in alternate years) sulphate of ammonia (=50 lb.ammonia)	3·0 ¹	61·9	4	4 0 3	32 0	
8aa	As 8a, with 10 cwt. lime, Jan., 1905	17·6 ¹	62·0	16	12 3 6	33 0	
8b	Mineral manures, sulphate of ammonia (=50 lb.ammonia) omitted (in alternate years).	3·4 ²	61·9	4	4 1 11	32 0	
8bb	As 8b, with 10 cwt. lime, Jan., 1905	12·8 ²	62·5	20	10 1 8	32 6	
9a	Mineral manures and (in alternate years) nitrate of soda (=50 lb. ammonia)	28·5 ¹	62·1	30	22 0 26	33 0	
9b	Mineral manures, nitrate of soda (=50 lb. ammonia) omitted (in alternate years).	16·1 ²	63·1	20	12 2 16	32 0	
10a	Superphosphate 3 cwt., Nitrate of soda (=25 lb. ammonia)	27·7	58·2	20	19 1 0	30 0	
10b	Rape dust (=25 lb. ammonia)	16·6	62·1	22	12 0 23	32 6	
11a	Sulphate of potash 1 cwt., nitrate of soda (=25 lb. ammonia)	24·8	61·7	24	18 2 2	32 0	
11b	Farmyard manure (=100 lb. ammonia)	24·3	62·0	20	22 0 23	32 6	

¹ Applied.² Omitted.

TABLE II.—*Continuous Growing of Barley, 1908*
(32nd Season).

(Barley grown year after year on the same land, the manures being applied every year.)

Stackyard Field—Produce per acre.

Plot	Manures per acre	Head corn		Tail corn	Straw, chaff, &c.	Value per quarter on basis of 30s.	
		No. of bush.	Weight per bush.	Weight		s.	d.
1	Unmanured	6.5	Lb. 51.7	Lb. 20	C. q. lb. 4 3 1	24	6
2a	Sulphate of ammonia (=25 lb. ammonia)	—	—	—	—	—	—
2aa	As 2a, with 5 cwt. lime, Mar., 1905	—	—	32	1 3 1	25	0
2b	As 2a, with 2 tons lime, Dec., 1897	3.2	52.0	8	3 3 7	25	0
2bb	As 2b, with 2 tons lime (repeated), Mar., 1905	9.7	52.0	48	6 0 1	24	6
3a	Nitrate of soda (=50 lb. ammonia)	18.1	50.7	44	10 0 18	24	0
3b	Nitrate of soda (=25 lb. ammonia)	14.4	51.2	54	8 2 4	24	0
4	Mineral manures (superphosphate 3 cwt., sulphate of potash $\frac{1}{2}$ cwt.)	5.4	51.5	19	4 3 0	25	0
5a	Mineral manures and sulphate of ammonia (=25 lb. ammonia)	—	—	4	0 1 24	25	0
5aa	As 5a, with 1 ton lime, Mar., 1905	13.2	54.0	28	7 1 14	25	6
5b	As 5a, with 2 tons lime, Dec., 1897	6.4	52.0	14	3 3 24	25	0
6	Mineral manures and nitrate of soda (=25 lb. ammonia)	14.2	51.6	33	7 1 0	26	0
7	Unmanured	5.4	51.5	12	3 2 22	25	0
8a	Mineral manures and (in alternate years) sulphate of ammonia (=50 lb. ammonia)	—	—	12	0 3 4	25	0
8aa	As 8a, with 2 tons lime, Dec., 1897	13.0 ¹	52.0	32	9 2 23	26	0
8b	Mineral manures, sulphate of ammonia (=50 lb. ammonia) omitted (in alternate years)	—	—	—	—	—	—
8bb	As 8b, with 2 tons lime, Dec., 1897	6.4 ²	52.0	32	5 2 4	25	6
9a	Mineral manures and (in alternate years) nitrate of soda (=50 lb. ammonia)	22.0 ¹	51.5	50	10 3 3	26	0
9b	Mineral manures, nitrate of soda (=50 lb. ammonia) omitted (in alternate years)	10.2 ²	51.2	22	6 1 0	26	0
10a	Superphosphate 3 cwt., nitrate of soda (=25 lb. ammonia)	18.2	53.0	28	9 1 24	27	6
10b	Rape dust (=25 lb. ammonia)	13.9	54.0	18	7 2 24	27	0
11a	Sulphate of potash 1 cwt., nitrate of soda (=25 lb. ammonia)	19.5	53.0	22	10 0 12	26	6
11b	Farmyard manure (=100 lb. ammonia)	24.4	53.3	30	12 1 9	26	6

¹ Applied.² Omitted.

this year, at all events, it would have been better had later sowing taken place.

Nitrogenous top-dressings were applied May 11-13 and June 4. As usual, the sulphate of ammonia plots (2's and 5's) presented interesting appearances, the need of lime and of renewal of it being more emphasised than in the case of the wheat. Thus there was practically no crop where 5 cwt. of lime per acre had been used with sulphate of ammonia, and the earlier dressing (in 1897) of 2 tons of lime per acre seemed (contrary to the similar plot in the wheat experiments) to be worked out, for the plot was much overgrown with spurry; so also was plot 5b, which, until now, had been yielding extremely well. On the other hand, the renewal of lime (2 tons per acre), on plot 2bb in 1905, gave a better crop, and it would seem clear that the barley crop, being a "surface feeder," feels more quickly the withdrawal of lime and the injurious effects of soil-acidity. These differences were, no doubt, increased by the unfavourable season.

The plots looked, as a whole, very short, patchy, and poor throughout the time of growth, and never recovered from the poor start the barley had. When at length the time for cutting came (August 26) the weather was very bad for harvesting, rain fell day after day, and the sheaves had to be turned, opened out, and spread about before they could be stacked.

The yield, under the above circumstances, was a very poor one, and the grain was practically spoiled as regards quality. The unmanured produce was 6 bushels per acre only against an average of $12\frac{1}{2}$ bushels for the past ten years. The highest yield was with farmyard manure, viz., 24.4 bushels, and minerals and nitrate of soda (plot 9a), as in the case of wheat, gave the best crop of those treated with artificial manures. Nitrate of soda alone produced 14.4 bushels when 1 cwt. per acre was used, and 18.1 bushels with 2 cwt. per acre. The influence of potash (plot 11a) as compared with phosphates (plot 10a) was not as marked as in the previous year. Rape dust, as with the wheat, gave a crop much inferior to that with farmyard manure. The appearances noted at the time of growth in the case of the sulphate of ammonia plots, with and without lime, were borne out in the harvest results, these all being poor, or no crop at all; the 1 ton per acre of lime, last put on in 1905, gave the highest yield of this series. It would seem probable that there is need of renewing the lime on several of the plots.

The full harvest results are given in Table II., page 341.

The different samples of corn were also valued, but the barley was so "weathered" that none of it could be considered as fit for anything but grinding.

ROTATION EXPERIMENTS (*STACKYARD FIELD*).

This experiment, it will be remembered, is divided into two halves, viz. :—

A. The upper half, in which sheep feed off the roots on the land, receiving, on one plot, decorticated cotton cake, on a second plot, maize meal, and on the third and fourth plots, neither cake nor corn.

B. The lower half, in which the roots are manured with dung made in the feeding boxes by bullocks consuming, in addition to other foods, for plot 5, decorticated cotton cake, for plot 6, maize meal, for plots 7 and 8, neither cake nor corn.

The object of the experiment is to see what increase of crops during the rotation is obtainable from the use of decorticated cotton cake as compared with maize meal, or from either as compared with no cake or corn ; in other words, to ascertain what is the unexhausted manurial value of these foods, according as they may be, in the one case, fed direct on the land by sheep, or, in the other case, used by bullocks in feeding boxes for the production of farmyard manure.

A.—UPPER HALF (Sheep-feeding).

Rotation I. 1908, Wheat—following Mustard (1907).

The mustard stubble was ploughed up in October, 1907, and wheat—"Square Head's Master"—drilled, at the rate of 9 pecks per acre, on November 6. The wheat was rather "patchy" at first, but was brought on well by the warm weather of July, 1908, the crop being cut on August 12 and carted on August 26. The results are given in Table III.

TABLE III.—*Rotation I. Wheat, 1908.*

Stackyard Field—Produce per acre.

Plot		Head corn			Tail corn	Straw, chaff, &c.		Value of corn per quarter on basis of 33s.	
		Weight	Bush.	Weight per bushel	Weight				
		C. q. lb.		Lb.	Lb.	C. q. lb.	s. d.		
1	Decorticated cotton cake plot	9 2 16	17·0	62·9	15·5	11 2 22		33 0	
2	Maize meal plot	9 3 5	17·4	62·8	14·5	12 0 23			
3	No cake or corn	9 1 4	16·5	62·7	16·5	12 0 0			
4	No cake or corn	9 2 1	16·8	63·1	17·5	11 3 3			

The produce was by no means a good one, but it will be seen that there was little to choose between the four plots, indicating that there was little difference of manurial value between the foods used, so far as this, the third crop in the rotation, was concerned. The wheats were considered good

average ones for the season, in excellent condition, but lacking in strength.

Rotation II. 1908, Barley—after roots fed off.

The swedes grown in 1907 were fed off on the land by eighty sheep from January 25, 1908, to the middle of March, at the rate of 12 tons per acre. On each plot a little clover hay chaff was given, and the sheep had as additional foods, on plot 1, decorticated cotton cake at the rate of 920 lb. per acre (being $\frac{1}{2}$ lb. per head daily), and, on plot 2, maize meal at the same rate, the sheep on plots 3 and 4 receiving neither cake nor corn.

The land was ploughed March 19-28, and "Chevalier" barley drilled on March 31 at the rate of 9 pecks per acre. The barley came up well, and the plots presented a great contrast to the adjoining ones of the continuous barley-growing series. Further, the several plots showed clearly the influence of the manurial treatment, the decorticated cotton cake plot being by far the heaviest, and the maize meal plot coming next. The crop was cut on August 27, and carted and stacked September 7-8. The results are given in Table IV.

TABLE IV.—*Rotation II. Barley, 1908.*

Stackyard Field—Produce per acre.

Plot		Head corn			Tail corn	Straw, chaff, &c.	Value of corn per quarter on basis of 30s.	
		Weight	Bush.	Weight per bushel	Weight			
		C. q. lb.		Lb.	Lb.	C. q. lb.	s.	d.
1	Swedes fed off with dec. cotton cake .	21 1 24	43·5	55·2	37·0	22 2 18	31	0
2	Swedes fed off with maize meal .	14 2 13	29·6	55·3	20·0	15 0 20	30	0
3	Swedes fed off without cake or corn .	11 3 17	24·1	55·2	22·0	11 3 9	32	0
4	Swedes fed off without cake or corn .	10 1 20	21·0	55·5	27·5	9 3 17	28	0

The barleys were in far better condition than those grown on the continuous plots, and were reckoned as above the average for the season.

Rotation III. 1908, Green Crop (Mustard)—after Barley (1907).

The land was ploughed early in January, 1908, and in February two tons of ground lime per acre were given to this half of the rotation. Mustard was drilled on June 28 and came up well. It was cut, carted, and weighed green September 28-30: The weights are given in Table V.

TABLE V.—*Rotation III. Mustard, 1908.*
Stackyard Field.

Plot	Green produce per acre			
1	After barley—decorticated cotton cake plot .	T.	c.	q. lb.
2	" " maize meal plot . . .	6	0	0 0
3	" " no cake or corn . . .	5	7	0 0
4	" " " " . . .	5	12	0 14
		4	10	2 14

The crop on the decorticated cotton cake plot was somewhat the best.

Rotation IV. 1908, Swedes—after Wheat (1907).

The land was ploughed in December, 1907. "Elephant" swede seed—at the rate of 4 lb. per acre—was drilled on June 13, 1908, this part of the rotation receiving also 4 cwt. per acre of basic superphosphate, and 1 cwt. per acre of sulphate of potash. A quite good crop of swedes, considering the season, was obtained. These were pulled, topped, and weighed November 23 to December 4. The weights are given in Table VI.

TABLE VI.—*Rotation IV. Swedes, 1908.*
Stackyard Field.

Plot	Produce of roots per acre			
	T.	c.	q.	lb.
1	10	19	2	0
2	10	0	0	0
3	9	18	0	0
4	10	0	0	0

B.—LOWER HALF (Bullock-feeding).

Inasmuch as both the upper and lower halves of the field had got into regular rotation, it was now possible to take the same crop on the two halves of each rotation; accordingly cultivating, drilling, and reaping could be done right through the two halves, thereby economising labour besides adding to the interest of the experiment to any one inspecting it. Thus, in passing along the middle line, between the upper and lower halves, one can compare, on the one hand, a barley crop following roots fed off by sheep with cake or corn, with one following roots manured with dung made by the feeding of cake or corn to bullocks in boxes; in like manner the other crops of the rotation can be compared as grown under the two sets of conditions.

The cultivations being alike, it is unnecessary, in treating of the crops of the lower half, to repeat the details, but it will be sufficient to briefly state the results.

Rotation I. 1908, Wheat—following Mustard (1907).

This rotation has not as yet come into regular order, and so need not be discussed in detail. The results are given in Table VII.

TABLE VII.—*Rotation I. Wheat, 1908.*
Stackyard Field—Produce per acre.

Plot	Head corn			Tail corn	Straw, chaff, &c.	Value of corn per quarter on basis of 33s.
	Weight	Bush.	Weight per bushel	Weight		
	C. q. lb.		Lb.	Lb.	C. q. lb.	s. d.
5	7 3 10	13·8	62·8	12·5	10 3 22	} 32 6
6	9 1 20	16·9	62·4	12·0	12 1 20	
7	10 3 8	19·3	62·7	25·0	14 2 23	
8	10 1 4	18·4	62·8	13·0	13 0 17	

Rotation II. 1908, Barley—after roots manured.

The swede crop of 1907 had been manured with dung, made as follows:—For plot 1, with decorticated cotton cake; for plot 2, with maize meal; for plots 3 and 4, without either cake or corn. The crop, distributed over the plots at the rate of 12 tons per acre, was fed off by sheep which received neither cake nor corn but merely a little clover-hay chaff, and “Chevalier” barley was subsequently drilled. The results are given in Table VIII.

TABLE VIII.—*Rotation II. Barley, 1908.*
Stackyard Field—Produce per acre.

Plot		Head corn			Tail corn	Straw, chaff, &c.	Value of corn per quarter on basis of 30s.
		Weight	Bush.	Weight per bushel	Weight		
		C. q. lb.		Lb.	Lb.	C. q. lb.	s. d.
5	Decorticated cotton cake dung plot .	17 2 16	36·1	54·6	27·0	17 0 26	29 0
6	Maize meal dung plot	16 3 16	34·2	55·3	35·0	17 0 18	29 0
7	Dung plot without cake or corn . .	16 1 1	32·8	55·5	34·5	15 1 23	27 6
8	Dung plot without cake or corn . .	15 3 22	32·2	55·3	43·0	14 2 26	26 0

The decorticated cotton cake plot gave the highest return, and the maize meal plot the next best, but the differences between these plots and those to which was given (for the swede crop) manure made without cake or corn are not nearly

so marked as where (see Table IV.) the cake or corn was given direct to sheep feeding on the land.

On the other hand the application of farmyard manure to the land, though made without cake or corn (plots 7 and 8), has given a better return in the barley crop than where the swedes were fed off by sheep without cake or corn (plots 3 and 4, Table IV.). These figures bid fair to give interesting results in the future as regards the comparative efficiency of cake and of corn, whether fed, in the one case, to sheep on the land, or, in the other, to bullocks in feeding boxes and subsequently applied as manure to the land.

Rotation III. 1908, Green crop (Mustard)—after Barley (1907).

This rotation not having come yet into regular order, it will be enough to record the weights as given in Table IX.

TABLE IX.—*Rotation III. Mustard, 1908.*
Stackyard Field.

Plot	Green produce per acre			
	T.	c.	q.	lb.
5	4	7	2	0
6	4	1	3	0
7	4	4	0	14
8	3	10	0	14

Rotation IV. 1908, Swedes—after Wheat (1907).

The previous wheat crop had not come into regular rotation, but the new plan commenced with this Rotation (IV.) in 1908, the farmyard manure for the swede crop being made in the feeding boxes during the winter of 1907 and applied to the plots early in June, 1908. The quantity of dung that went on was 4 tons per acre. That for plot 5 was made by two bullocks which, in addition to roots, chaff, and hay, had decorticated cotton cake given to them. The bullocks making dung for plot 6 had maize meal in place of decorticated cotton cake, while those making dung for plots 7 and 8 had only roots, chaff, and hay. The quantity of cake or meal given was equivalent to 10 cwt. on each acre over which the manure was to be spread. The dung was ploughed in June 10-13, swede seed being drilled on the latter date. The crop on this half clearly showed the benefit of the manurial applications, being half as large again as the corresponding crop on the upper half (sheep-feeding). It is worthy of special note, however, that the cake-fed or the corn-fed manure gave no better crop than that made without cake or corn. It should be pointed out that a nearly similar result was obtained in 1907 in the corresponding case of Rotation II., but the present returns are of a more uniform

nature. This consideration seems likely to have an important significance when the matter has been further pursued. The results are given in Table X.

TABLE X.—*Rotation IV. Swedes, 1908.*
Stackyard Field.

Plot	Produce of roots per acre			
		T.	c.	q. lb.
5	Decorticated cotton cake dung	15	9	0 0
6	Maize meal dung	15	2	0 0
7	Dung without cake or corn	15	6	0 0
8	" " " " " " " "	15	12	0 0

GREEN-MANURING EXPERIMENT (*LANSOME FIELD*), 1908.

The green crops having been grown in 1907, wheat followed as usual. "Square Head's Master" wheat, at the rate of 9 pecks per acre, was drilled on November 7, 1907, and came up satisfactorily. By April, 1908, the wheat after mustard looked, as in previous years, decidedly the best, that after rape next best, while the wheat following tares was clearly the poorest. These appearances were borne out by the crop results given in Table XI. The wheat was cut on August 10 and carted on August 20. It is noticeable that the plots to which lime had been given (last in 1904) were, generally, superior to the corresponding ones to which mineral manures had been applied. In one case (plot 4) the wheat following rape was as good as that after mustard, but in all cases the smallest crops were those of wheat following tares. These results go to confirm fully the observations of previous years.

TABLE XI.—*Green-Manuring Experiment (Lansome Field).*
Produce of Wheat per acre, 1908.

Plot	Manuring	Head corn			Tail corn	Straw, chaff, &c.		
		Weight	Bushel	Weight per bushel	Weight			
		Lb.		Lb.	Lb.	C.	q.	lb.
1	Tares ploughed in, with mineral manures	733	12·4	58·8	34·5	8	3	23
2	Tares ploughed in, with lime	909	16·2	56·0	45·0	8	3	26
3	Rape ploughed in, with mineral manures	924	16·5	55·7	37·5	11	1	4
4	Rape ploughed in, with lime	1,383	24·3	56·7	39·0	14	0	26
5	Mustard ploughed in, with mineral manures	1,356	23·4	57·7	25·5	14	2	15
6	Mustard ploughed in, with lime	1,498	24·9	60·0	25·5	14	2	6

EXPERIMENT WITH "NITROLIM" (CALCIUM CYANAMIDE)
(BUTT FURLONG), 1908.

It was considered desirable to make a trial of the new nitrogenous material, "nitrolim" (or calcium cyanamide), prepared from the atmosphere by the aid of a powerful electric furnace. As calcium cyanamide, if found to be useful in agriculture, is likely to be a rival to sulphate of ammonia, the comparison was made between sulphate of ammonia at the rate of $\frac{3}{4}$ cwt. per acre, applied as a top-dressing to barley, and calcium cyanamide in quantity to supply the same amount of nitrogen. The equivalent weight of calcium cyanamide was found by analysis to be 96.3 lb. per acre. The results on the barley crop were:—

Produce of Barley per acre.

Plot	Manure per acre	Head corn		Tail corn	Straw, &c.		
		Bush.	Weight per bushel	Weight			
1	"Nitrolim," 96.3 lb.	34.09	56.0	45	C.	q.	lb.
2	Sulphate of ammonia, 84 lb.	22.77	55.5	34	16	2	23

At first sight this would lead to the conclusion that calcium cyanamide was the more valuable form for supplying nitrogen. It has, however, to be remembered that the Woburn soil is decidedly deficient in lime, and the ill effects of sulphate of ammonia on such a soil have been brought out in the continuous corn-growing experiments. Calcium cyanamide, moreover, contains a material quantity of lime, and to this fact is to be attributed in large measure the better crop obtained with the new material. This is brought out by the experiment next recorded, which was made in the same field on plots adjoining those first described.

EXPERIMENTS ON "FINGER-AND-TOE" AND THE USE OF
LIME (BUTT FURLONG), 1908.

In this experiment, lime, in the two forms of ordinary lump lime and of ground lime, is being tried as a remedy for "finger-and-toe" in turnips. The turnips are, however, grown in the ordinary rotation course, and not, as in a previous experiment, every year. Three plots were marked out, and to one of them lump lime at the rate of 2 tons per acre was applied on January 11, 1908, 10 cwt. of ground lime per acre being put on a second plot at the same date, while the third plot was left blank. The crop of 1908 was barley, and the harvest results obtained were:—

Produce of Barley per acre.

Plot	Treatment per acre	Head corn		Tail corn	Straw, &c.
		Bush.	Weight per bushel	Weight	
1	Untreated	24.06	Lb. 56.25	Lb. 34	C. q. lb. 16 1 0
2	Lump lime, 2 tons	41.03	55.75	79	23 0 27
3	Ground lime, 10 cwt.	30.47	55.5	53	22 1 2

From these results it will be seen how much the land stood in need of liming. It was, moreover, very noticeable that while the land where sulphate of ammonia, and, to a lesser extent, "nitrolim," had been applied, had a thick growth of the weed *Polygonum aviculare*, the plots to which lime had been directly applied were almost entirely free of this weed. The use of ordinary lime at the rate of 2 tons per acre increased the yield of barley by no less than 17 bushels per acre, and did considerably better than the 10 cwt. of ground lime. It is proposed to renew later the application of ground lime so as to bring up the cost of it to that of the 2 tons of ordinary lime, and thus to judge which is the more economical to employ. This experiment, however, brings out very clearly the reason for the "nitrolim" having done so much better than sulphate of ammonia in the experiment last recorded.

It is intended in 1909 to make more extended experiments both with "nitrolim" and with the other new nitrogenous material—calcium nitrate—also prepared from the atmosphere by electrical means, and to compare them with sulphate of ammonia and nitrate of soda as sources of nitrogen supply to crops.

VARIETIES OF LUCERNE (STACKYARD FIELD), 1908.

The three different kinds of lucerne—Provence, American, and Canadian—sown in 1905, were kept down in 1908, and gave three cuttings, viz., on June 29, August 27, and October 16. The total green produce per acre for 1908 was as follows :—

Varieties of Lucerne (Stackyard Field).

Plot	Green produce per acre, 1908 (thrd year).				
		T.	c.	q.	lb.
A	Provence seed	6	13	0	14
B	American seed	6	4	0	7
C	Canadian seed	9	3	3	0

The Canadian variety has now, for the third year in succession, given considerably the highest yield; the Provence variety, as in 1907, was somewhat better than the American, though this was not the case in 1906.

Seed direct from the Argentine having been offered by the Agricultural Department there, and sent over, three different kinds of Argentine lucerne were sown on small plots by the side of the older plots just described. These varieties were known respectively as "Chubut," "Buenos Ayres," and "La Pampa." The seed was sown on June 4, 1908, and the crops grew quite well until the end of September, when they were, without exception, attacked by a fungus, *Pseudopeziza Trifolii*, which quickly spread all over the plot and began to invade the adjoining older plots. It was therefore necessary to cut them at once, very close to the ground, to remove all diseased leaves, and to spread lime over each plot, in order to prevent, if possible, the disease being carried on to the next season's crop. The weights of green produce obtained were:—

	Green produce per acre.		
	C.	q.	lb.
"Chubut"	9	1	4
"Buenos Ayres"	11	0	3
"La Pampa"	13	3	20

INOCULATION EXPERIMENTS WITH "NITRO-BACTERINE."

Professor W. B. Bottomley, of King's College, London, having kindly placed at my disposal some of the inoculating material—nitro-bacterine—prepared by him, it was decided to carry out experiments on its efficiency, both with white clover and lucerne. The white clover was of two varieties, ordinary Dutch White and a new variety, "Mammoth White." The lucerne was seed obtained direct from the Argentine, and this was sown on the plots which had for several years previously been used for manurial experiments on lucerne. Each plot was divided into two halves, these being kept separate by boards driven down into the ground. On one half the seed was sown without preparation, while on the other half the seed was first treated with "nitro-bacterine" in strict accordance with the directions given by Professor Bottomley. The crops came up well; in the case of the clovers there was little difference to be noted between the inoculated and non-inoculated halves, but in the case of the lucerne the non-inoculated looked the better throughout. In September there came over the Argentine lucerne the fungoid attack already spoken of, but this did not spread to the white clover. The results, in green produce per acre, are given in Table XII., page 352.

TABLE XII.—*Lucerne and White Clover ; seed inoculated and not inoculated.*

Green produce per acre, 1908.

	Seed inoculated			Seed not inoculated		
	C.	q.	lb.	C.	q.	lb.
Argentine Lucerne—Plot 1 . .	10	3	4	14	3	9
" " " 2 . .	13	1	26	16	0	20
" " " 3 . .	10	3	4	12	0	15
" " " 4 . .	8	0	10	9	1	21
" " " 5 . .	13	1	26	16	0	20
" " " 6 . .	21	2	8	29	2	18
" " " 7 . .	22	3	19	35	0	6
" " " 8 . .	29	2	18	4	1	22
" " " 9 . .	35	0	6	41	3	5
" " " 10 . .	26	3	24	28	1	7
Dutch White Clover . . .	27	2	0	23	3	0
Mammoth White Clover . .	27	2	0	26	1	0

From this table it will be seen that in no single instance was there any gain by inoculation of the seed in the case of the lucerne, but that with white clover there was in each instance a small increase.

This experiment will be continued in 1909.

POTATO EXPERIMENTS WITH "NITROLIM" AND MAGNESIA (ROAD PIECE FIELD), 1908.

Mention has been made already of an experiment with "nitrolim" (calcium cyanamide) used as a top-dressing for barley, as compared with sulphate of ammonia similarly used. It was decided to extend the trial of "nitrolim" to the potato crop and, at the same time, to include a comparison with nitrate of soda. Further, in consequence of the striking results obtained at the Pot-culture Station in regard to the influence of magnesia, it was resolved to try its effects also in the field.

The variety of potato grown was "Table Talk"; six different plots were marked out in Road Piece Field and each plot was manured alike with a general dressing comprised of, per acre : farmyard manure, 12 tons ; superphosphate, 3 cwt. ; and sulphate of potash, 1 cwt.

In addition to this general manuring, three plots (Nos. 1, 2, and 3) had further nitrogenous applications in the respective forms of sulphate of ammonia, nitrate of soda, and "nitrolim." The basis of comparison was 1 cwt. per acre of sulphate of ammonia, the amounts of nitrate of soda (142 lb. per acre) and "nitrolim" (128 lb. per acre) applied containing the same amount of nitrogen as did the 1 cwt. of sulphate of ammonia.

Plot 4 was left with the general dressing only, but plot 5 received, in addition, 3 cwt. per acre of ground magnesia, and plot 6, 6 cwt. per acre of the same.

The farmyard manure was spread in the drills May 6-9, 1908, and the artificials were applied on May 30, the potatoes being subsequently planted. The crop came up well, and there was very little disease.

The results are given in Table XIII. and are of a very interesting character.

TABLE XIII.—*Experiment on Potatoes, 1908 (Road Piece Field).*

Produce of Tubers per acre.

Plot	Manuring per acre	Ware	Seed	Small	Diseased	Total produce
		T. c. q. lb.	C. q. lb.	C. q. lb.	C. q. lb.	T. c. q. lb.
1	Standard dressing and, additionally— Sulphate of ammonia, 1 cwt.	10 0 2 24	8 3 20	6 1 0	3 0 24	10 19 0 12
2	Nitrate of soda, 142 lbs.	9 4 2 16	13 2 8	7 0 16	3 2 8	10 8 3 20
3	"Nitrolim," 128 lbs.	8 12 2 0	12 3 12	7 0 16	2 3 12	9 15 1 12
4	Standard dressing only	8 8 2 8	9 1 4	5 2 24	3 0 24	9 6 3 4
5	Magnesia, 3 cwt.	8 18 3 20	13 0 24	5 1 12	2 2 0	10 0 0 0
6	" 6 cwt.	9 14 1 4	9 2 16	4 1 4	3 3 20	10 12 0 16

¹ 12 tons farmyard manure, 3 cwt. superphosphate, 1 cwt. sulphate of potash per acre.

The lowest produce was with the standard dressing only. Of the three different nitrogenous applications, decidedly the best was sulphate of ammonia, the extra nitrogen supplied in this increasing the crop by 1 ton 12 cwt. per acre; nitrate of soda, giving the same nitrogen, improved the yield by 1 ton 2 cwt., and "nitrolim" by 8 cwt. 2 qrs. only. The superiority of sulphate of ammonia to nitrate of soda for the potato crop, so far at least as the Woburn soil is concerned, has been shown before, and it would now appear hardly likely that "nitrolim" will prove as good either, presuming its nitrogen to cost the same as that in sulphate of ammonia.

Very remarkable are the results obtained from the use of magnesia, even in the small amounts of 3 cwt. and 6 cwt. per acre. Three cwt. of magnesia per acre increased the crop by 13 cwt., although no more nitrogen was used, and 6 cwt. per acre of magnesia gave no less an increase than 1 ton 5 cwt., the crop being the second largest one of the whole series. Thus 3 cwt. per acre of magnesia showed itself superior in effect to 1 cwt. of "nitrolim," and 6 cwt. of magnesia per acre acted better than did $1\frac{1}{4}$ cwt. of nitrate of soda.

Turning the gains into money values, as far as possible, sulphate of ammonia gave a gain per acre (after deducting its cost) of 2*l.* 11*s.* 9*d.* per acre over the "standard" dressing, that with nitrate of soda being 1*l.* 10*s.* per acre. The cost of "nitrolim" is not exactly known yet, though it may be taken that it will be regulated by the price of sulphate of ammonia and nitrate of soda. If this be so, the extra crop would just

about have covered the cost of the application. Magnesia is not yet a commercial article for agricultural purposes, and so it is difficult to say what it would cost if regularly available. The results obtained, however, with magnesia, are such as make the following up of this subject in the future very desirable.

EXPERIMENT ON SWEDES (*BUTT CLOSE*), 1908.

An experiment was designed with the double object of seeing which of three different varieties would do the best, and also of ascertaining the value for the swede crop of a manurial material recommended for use on land deficient in lime, and called "basic turnip manure." The nitrogenous ingredients in the manure are derived from "nitrolim" (calcium cyanamide).

The three varieties of swedes tried were "Elephant," "Kangaroo," and "Invicta." The same standard dressing was given to all three plots, and consisted of, per acre: farmyard manure, 12 tons; superphosphate, 3 cwt.; sulphate of potash, 13 lb. (this supplying the same amount of potash as was contained in 6 cwt. of the basic turnip manure). Plot 1 was treated with the "standard" dressing only, plot 2 with nitrate of soda in addition (70 lb. per acre), giving the same nitrogen as in 6 cwt. of the "basic turnip manure," and plot 3 with the "standard" dressing and 6 cwt. per acre of the "basic turnip manure." The latter, it may be said, was basic in character, because of lime added to it, fitting it thereby for land poor in lime.

The farmyard manure was spread June 10-12, 1908, and ploughed in June 15-23. The swede seed was then drilled; the roots came up well, and were singled and hoed July 14-26. The crop was pulled and weighed December 5-18. It was noticeable that the "Invicta" came up out of the ground very "clean," whereas the "Elephant" left much more earth attaching to the bulbs. The "Kangaroo" were a nice crop, but not equal to the "Invicta." The results are given in Table XIV.

TABLE XIV.—*Experiment on Swedes (Butt Close), 1908.*

Produce of Roots per acre.

Variety	Series 1				Series 2				Series 3			
	Standard dressing only ¹				Standard dressing with nitrate of soda 70 lb. per acre				Standard dressing with basic turnip manure 6 cwt. per acre			
	T.	c.	q.	lb.	T.	c.	q.	lb.	T.	c.	q.	lb.
"Elephant" . . .	17	10	2	14	16	19	1	14	18	8	1	21
"Kangaroo" . . .	20	6	3	14	18	6	3	14	20	2	0	21
"Invicta" . . .	21	9	1	14	19	6	1	0	21	4	2	21

¹ Farmyard manure 12 tons, superphosphate 3 cwt., sulphate of potash 13 lb. per acre.

These figures show clearly that, as between the three varieties, the "Invicta" were decidedly the best, and the "Kangaroo" the next best. This was the case whatever the manuring was. As regards the manuring, the notable point is that the application of nitrate of soda reduced the crop in each case, though it made the tops look more luxuriant. The basic turnip manure could not be said to have generally produced any benefit over the standard dressing. It gave some gain with the "Elephant" variety, but not with the other two.

EXPERIMENT ON THE USE OF SALT FOR MANGOLDS (WARREN FIELD), 1908.

Experiments conducted on the mangold crop for the last few years having shown in each case a distinct benefit to arise from the use of 1 cwt. of salt per acre along with nitrate of soda when used as a top-dressing, the question was not unfrequently asked whether a larger quantity of salt might not be still more beneficial. Accordingly the experiment of 1908 was arranged with this view, seven plots being marked out for each of four different varieties of mangold. A general dressing per acre of farmyard manure, 12 tons; superphosphate, 3 cwt., and sulphate of potash, 1 cwt., was given to all the plots alike, plot 1 receiving this alone. To plot 2, 1 cwt. per acre of nitrate of soda was given as a top-dressing; plot 3 had 1 cwt. of nitrate of soda and 1 cwt. of salt per acre as top-dressing, while plots 4, 5, and 6 had each 1 cwt. of nitrate of soda as a top-dressing, but the quantity of salt given with the nitrate of soda rose from 2 cwt. per acre on plot 4, to 4 cwt. on plot 5, and 6 cwt. on plot 6. One-half of the salt was put in the drills, and the other half used with the 1 cwt. nitrate of soda as top-dressing. Lastly, on plot 7, 1 cwt. per acre of "nitrolim" (calcium cyanamide) was used in the drills in addition to the usual dressing. The farmyard manure was carted and spread on May 11-14, 1908, and the superphosphate and sulphate of potash were given on May 15-16. The mangold seed was then drilled. Four different varieties were tried, viz., "Sugar Mangold," "Golden Tankard," "Yellow Globe," and "Mammoth Long Red." The top-dressings were applied July 10-11.

It was noticeable that the Sugar Mangold "bolted" very much more than any other variety.

The crops were pulled and weighed October 30 to November 7. The results are given in Table XV., page 356.

Of the four different varieties the "Yellow Globe" gave, all round, the greatest weight, the "Long Red" being but little behind; "Golden Tankard" gave the smallest yield. It will next be seen that the top-dressings in all cases increased the crop very materially. The lowest increase was with the

TABLE XV.—*Mangold Experiment (Warren Field), 1908.*
Produce of Roots per acre.

Manures per acre in addition to standard dressing ¹	I.		II.		III.		IV.		V.		VI.		VII.	
	No top- dressing		Nitrate of soda, 1 cwt.		Nitrate of soda, 1 cwt. ; salt, 1 cwt.		Nitrate of soda, 1 cwt. ; salt, 2 cwt.		Nitrate of soda, 1 cwt. ; salt, 4 cwt.		Nitrate of soda, 1 cwt. ; salt, 6 cwt.		Nitrolim, 1 cwt.	
Variety	T.	c. q. lb.	T.	c. q. lb.	T.	c. q. lb.	T.	c. q. lb.	T.	c. q. lb.	T.	c. q. lb.	T.	c. q. lb.
Sugar Mangold	28	0 1 7	30	5 0 0	31	5 2 14	34	7 2 0	34	14 1 14	33	17 0 21	30	15 1 7
Golden Tankard	19	18 3	0 23	7 2 0	23	17 3 7	29	7 3 7	28	17 2 0	33	10 1 7	25	8 3 0
Yellow Globe	28	3 3	0 33	3 1 21	34	17 3 7	37	19 2 21	38	6 2 7	41	5 0 0	31	15 3 21
Long Red	31	15 3	21	36 12 0	21	32 6 1	0 35	4 2 21	36	12 0 21	36	12 0 21	29	7 3 7

¹ Farmyard manure 12 tons, superphosphate 3 cwt., sulphate of potash 1 cwt. per acre.

"nitrolim," the 1 cwt. per acre of this not doing as well as 1 cwt. per acre of nitrate of soda. The next point for notice is that while there was but small difference between 1 cwt. nitrate of soda and 1 cwt. nitrate of soda used with 1 cwt. of salt, yet, as the salt was increased, the yield rose higher, the highest crops being obtained by the use of as much as 6 cwt. per acre of salt used along with 1 cwt. per acre of nitrate of soda. With this dressing, in addition to the general manuring, as much as 41½ tons of "Yellow Globe" mangolds were obtained per acre, this being a big crop for light sandy land such as that at Woburn.

It follows from this experiment that common salt may be advantageously used up to 6 cwt. per acre. Between the use of 2 cwt. per acre of salt and 4 cwt. there seemed, however, but little to choose.

GRASS EXPERIMENTS (*BROAD MEAD*), 1908.

Broad Mead (old pasture) was the only experimental field to be hayed in 1908. The plots were chain harrowed and rolled early in the spring of the year, but no further manurial applications were made, these having been last given in the winter of 1906 and spring of 1907. The grass was ready to cut by June 26, but, owing to the uncertain weather, great care had to be taken. However, by not cutting more at a time than could be dealt with in a single day's carting, the whole was secured in admirable condition.

Samples of the hay from each plot were submitted to Mr. W. Carruthers, F.R.S., the Society's Consulting Botanist, who made botanical separations of the herbage.

The weights of hay and the results of the botanical separation are set out in Table XVI., page 357.

The heaviest crop, it will be seen, was given by farmyard manure, but the herbage contained little of the leguminosæ. Lime, as usual, gave, by itself, no increase of crop, but the fresh green appearance of this plot as compared with the others

TABLE XVI.—*Grass Experiments (Broad Mead).*

Produce of Hay, 1908, and botanical separation.

Plot	Manures per acre in 1901, 1904, and 1906	Weight of hay per acre	Botanical separation		
			Grami- næ	Legu- minosæ	Miscel- laneous
		T. c. q. lb.	Per cent.	Per cent.	Per cent.
1	Basic slag, 10 cwt.; nitrate of potash, 1 cwt.	2 0 1 0	97·6	0·7	1·7
2	Mineral superphosphate, 5 cwt.; sulphate of potash, 1 cwt. . .	1 17 2 0	92·7	4·5	2·8
3	Basic slag, 10 cwt.; sulphate of potash, 1 cwt.	2 0 3 0	96·2	2·1	1·7
4	No manure	1 13 3 12	95·8	1·9	2·3
5	Lime, 2 tons	1 13 0 0	96·1	1·3	2·6
6	Farmyard manure, 12 tons . .	2 1 2 0	97·3	1·1	1·6

was most noticeable throughout the season and after the removal of the hay crop. There is no doubt that the lime has had the effect of producing a finer condition of the herbage. Next in order to farmyard manure came the plot dressed with basic slag and sulphate of potash (plot 3), this showing an increase also in the leguminous herbage. Plot 2, however (mineral superphosphate and sulphate of potash), was the only one to show a marked increase of leguminous herbage, the percentage rising to 4·5. The growth of clovers on this plot had been noticeable throughout the season.

It is worthy of remark that in 1908 there was a much smaller proportion of leguminous herbage in the plots generally than had been noted in the years 1905 and 1907, when botanical separations were also made. In 1905 the lowest percentage of leguminous herbage was 2·0 and the highest 7·1, in 1907 the lowest was 5·1, the highest 19·0. Now (in 1908) the lowest percentage was 0·7, the highest 4·5.

In Broad Mead field the experiments on the value of sewage sludge, undertaken in 1907 for the Royal Commission on Sewage Disposal, were continued in 1908. These experiments, when completed, will be separately reported on.

RAINFALL AT WOBURN EXPERIMENTAL STATION, 1908, (292 ft. above sea level.)

1908		1908	
In.		In.	
January	1·55	July	1·73
February	0·85	August	2·65
March	2·86	September	1·88
April	3·74	October	2·07
May	1·71	November	0·82
June	1·47	December	1·57
Total		22·9	

POT-CULTURE EXPERIMENTS, 1907-8 (SUMMARY).

As time has gone on, the advantages of having a Pot-culture Station, where experiments can be carried on simultaneously with Field Experiments, have been made increasingly apparent. In the case of certain problems arising out of the Field Experiments it has, for instance, been impossible to pursue the inquiry further by the ordinary methods of field culture. To take an instance—the investigation of the failure of crops on the plots continuously treated with ammonia salts. In the field one can do little more than apply lime and so restore fertility, but the explanation of what has occurred, and the investigation of the nature of the poisonous element introduced on the land, are matters that have to be followed out in close detail, and which require the presence of a chemical laboratory and the application of methods of scientific inquiry. Thus it is now being sought to ascertain whether the use of any oxidising material will have the effect of neutralising the injurious element introduced. The methods of pot-culture work allow of the simultaneous trials of a number of different materials of this class, so that their relative effects can be studied side by side, whereas in field cultivation this is out of the question.

Another instance of the value of pot-culture work in conjunction with field experiment is supplied in the explanation provided of the seemingly anomalous results found in the field in the case of green-manuring (previous to a corn crop) with tares and mustard respectively. No continuation of the Field Experiments by themselves would ever have given the explanation supplied by the Pot-culture work, or have shown that the difference lay in the texture of the soil and in the relative proportions of water evaporated from the soil in the two cases.

Equally, on the other hand, many investigations begun at the Pot-culture Station prove useful guides as to what may be advantageously tried on the field scale. The experiments with magnesia on corn crops, conducted at the Pot-culture Station now for several years past, well illustrate this point. It was the remarkable results produced alike on the quality of the grain and on the development of the roots of the wheat plant, that led to the application of magnesia in the Field Experiments. The record of these, as given in the earlier part of this Report, bears witness to the remarkable influence exerted by magnesia on the potato crop (see page 353).

The Pot-culture work of 1907-8 followed, in main respects, the lines of that of 1906-7, but included also new matter in

the trial of the new inoculating material, "nitro-bacterine," for leguminous crops; as also in the further examination of the question of "soil-acidity."

The Hills' Experiments continue to show in a remarkable manner how very potent is the influence, both on germination and on crop return, of even very minute quantities of salts of certain of the rarer bodies, such as lithium and manganese. With lithium, the sulphate, chloride, nitrate, and carbonate were all tried, but whereas in 1906 the quantity of the metal (lithium) applied in these several forms was as little as $\cdot 05$ in 100 parts of the soil, in 1907 the amount had been reduced to $\cdot 0075$, and in 1908 it was still further reduced, viz., to $\cdot 00375$ parts in 100 parts of the soil. It was found in 1908 that even this small quantity retarded germination materially and also reduced the crop. In the case of carbonate of lithium the decrease of crop was about 50 per cent., and with the nitrate 25 per cent.

It has all along been known that even small quantities of certain salts introduced into solutions in which plants are growing (water-culture) are capable of exercising marked effect upon the growth, but it was not until these Pot-culture Experiments were carried out that one believed that the presence in quite small quantity, in the soil, of ingredients of unusual nature and occurrence could exercise so remarkable an influence on vegetation as was shown to be the case. Incidentally this throws light upon the next subject that was specially studied in 1907-8—the injurious nature of the acidity produced on the soil of the continuous wheat and barley experiments (Stackyard Field), where ammonia salts had been used year after year.

That the material producing this acidity exists in but small quantity has been shown, but equally is it exceedingly potent. In 1907-8 it was sought to ascertain whether this acidity could be destroyed by the use of any oxidising agent. With this view, sulphate of iron, sulphate of copper, pyrogallic acid, and animal charcoal were severally tried. While the results with the three first named were neutral, there was a singular result obtainable from the use of animal charcoal, the previously acid soil (which would not grow barley) being now rendered capable of bearing a barley crop, although the quantity of animal charcoal applied was not more than $\frac{1}{6}$ per cent. of the weight of the soil. Whether the animal charcoal works by reason of the absorption of the injurious substance in the soil, or by virtue of the lime contained in it, is a point that is now being further investigated.

Equally interesting is the next set of experiments—the continuation of the work on the relation of magnesia to lime

in soils and the consequent effect on crops. The main point having been established, that the increase of magnesia produces a change in the nature of the wheat grain and on the root development of the plant, the Pot-culture Experiments are now being extended to studying the effect of natural minerals—such as dolomite—in which magnesia presents itself, and which may be available for use in practice. Dolomite, both in its ground state and as burnt into magnesian lime, is being tried, and in comparison with ordinary limestone and with burnt lime (not magnesian), as also with magnesium carbonate, magnesium sulphate, &c. The practical question as to whether magnesian limestone and magnesian lime have or have not an injurious effect, and are for that reason to be rejected, has an important bearing on practical agriculture.

Another set of experiments has reference to the advantage or otherwise of giving nitrogenous manures to Fen soils. The latter are naturally very rich in nitrogen, but the evidence obtained from the Pot-culture work at Woburn goes to show that this nitrogen is in a very unavailable condition, and that easily assimilable nitrogen may usefully be added.

The experiments on green-manuring have been advanced another stage, and while it has been shown that the question as between tares and mustard as a preparatory crop for wheat is largely one of soil texture and consequent water requirements, there are other points involved, it is believed, which the continuation of the inquiry will, it is hoped, elucidate.

A new subject was taken up in 1908 at the Pot-culture Station, in conjunction with the Field Experiments on the same subject, and described on pages 351-2 of this Report—the value of Professor Bottomley's "nitro-bactarine" for inoculating leguminous crops. The general results of these experiments at the Pot-culture Station were of a negative character. In some cases the inoculated crops were slightly better than those not inoculated, in others the reverse was the case, but the differences between the two sets were practically immaterial.

Other trials were made with Professor Bottomley's culture for *non*-leguminous crops, but the material was received too late to make the trials really comparable, and they will be repeated in 1909.

Experiments on the eradication of wild onion have been continued at the Pot-culture Station, and this jointly with others on a practical scale on farm fields. The evidence thus far obtained goes to show that there is little hope of any application of "chemicals" to the soil being really effective, but that the remedy really consists in the alteration of the texture and condition of the soil. In the field work alluded to a marked diminution of the wild onion has been brought

about by laying the land down either in lucerne or with a mixture of deep-rooting grasses.

Lastly, the experiments conducted on behalf of the Royal Commission on Sewage Disposal were, by request of the Commission, continued for a second year at the Pot-culture Station. Wheat was the crop experimented on in 1907, and a barley crop was subsequently taken in 1908. By means of the Pot-culture Station it was possible to carry out comparative experiments with seven different sludges, no less than seventy pots being employed for the purpose. Such work as this, it is clear, could not possibly have been carried out in the field, and there was the added advantage that the whole of the work was under close observation all the time.

J. AUGUSTUS VOELCKER.

22 Tudor Street, E.C.

STATISTICS AFFECTING BRITISH AGRICULTURAL INTERESTS.

AS in previous years, the information compiled in the tables printed on pp. 366-380 is taken from the official publications of the Board of Agriculture and Fisheries, and the other Government Departments as noted below.¹ The data have been brought up to date wherever possible by the inclusion of the figures for 1908, some of the tables having been specially supplied in manuscript by the Board of Agriculture.

In one or two cases changes have been made, owing to similar changes in the original returns.

In the first of the general tables there will be found a summary for the United Kingdom. In this is included the data for Ireland, the Isle of Man, and the Channel Islands, for the details of which reference must be made to the actual statistics themselves. As in previous years, this actual statement deals with 47,000,000 acres, which are under crops and grass, out of the whole 77,000,000 acres included in the land area of the British Isles. The population having last year been estimated at 44,800,000, there is now only a portion of about one acre and a twentieth of cultivated or grass land for each living person.

¹ Agricultural Statistics for 1908, Vol. XLIII., Part I.; Agricultural Statistics for 1907, Vol. XLII., Parts I., II., and III.; the preliminary statements as to produce of crops, acreage, and yield per acre for 1908; the Annual Statements of the Board of Trade; and the Trade and Navigation Accounts for December, 1908.

Of the total area of land used for agricultural purposes, about nineteen and a half millions of acres are arable land, and about twenty-seven and a half millions are pasture. Compared with the previous year, and considering Great Britain alone, there has been a diminution of the utilised area of 32,000 acres, there being a loss of 170,000 acres of arable land and a gain of 138,000 acres of permanent grass.

Of the whole diminution in arable land, England alone takes up 118,000 acres, against which must be set an increase of 93,000 acres of pasture, leaving a net loss of 25,000 acres. The decrease in the preceding twelve months was 15,000 acres.

Considering now the arable land as a whole, we find that the corn crops occupy about 42 per cent. of the total area in the United Kingdom, and about 55 per cent. in England.

Of the area under corn crops, 4,189,000 acres, or rather more than half, was under oats, there having been a decrease of 27,000 acres (about $\frac{3}{4}$ per cent.) in this crop since the previous year. In fact, except in the case of wheat, where the area remained practically the same, there were decreases in all the corn crops.

The total number of horses was practically the same as the previous year, there being an increase in those used for agricultural purposes of 12,500, while there was a decrease in unbroken horses of one year and upwards amounting to 16,500, against which must be set an increase of 3,500 in those under one year old. The total number of horses in the United Kingdom is now 2,088,595, and in England 1,179,902.

In cattle there was a decrease in Great Britain of 6,933, but an increase of 109,680 in the United Kingdom and one of 10,547 in England. There were decreases of 6,433 in Wales, and of 11,047 in Scotland.

The increase in the number of sheep was over 1,324,000, bringing the total up to 31,336,000, while the pigs increased by about 88,000, and now amount to 4,056,000.

ACREAGE OF CROPS.

The tables published this year are again brought up to date by means of information kindly supplied by Mr. Rew, Assistant Secretary of the Board of Agriculture and Fisheries.

Of the 56,200,000 acres comprised in the land surface of Great Britain, there were 32,211,381 shown as under crops and grass in 1908, or 32,000 less than in the previous year. These were divided among 508,629 holdings, giving an average of 63.3 acres per holding. In addition to this area there was an extent of 12,801,883 acres returned as mountain and heath land used for grazing.

It will thus be seen that, taking the whole area of Great Britain, 57·3 per cent. were under crops and grass, which divided the total acreage between them very nearly in the proportion of 39 to 55.

The year's changes in Great Britain include, as stated above, a total loss of 32,000 acres under crops and grass, and it will be found on inspecting Table I. that this is the difference between a loss of 170,000 acres under crops and a gain of 138,000 acres under grass. As, in addition to this, the area left in bare fallow amounted to nearly 54,000 acres more than in 1907, the total loss of area under crops and grass is really about 86,000 acres.

The area under **Wheat** in Great Britain in the year 1908 was 1,664,860 acres, or within 200 acres of the amount in the previous year. It is satisfactory to note that the shrinkage reported in last year's returns has not been continued, but the variations in the county areas have been very considerable. These variations, moreover, differ very much in the same parts of the country, but on the whole there is a slight decrease in the north and east, balanced by an increase in the south and west.

It will be remembered that the decrease in acreage in the year 1907 was attributed in last year's Report to the weather, and hopes were expressed that this might be remedied. The variable weather last year, however, has disappointed these hopes, although it is some comfort that the wheat acreage has not further declined.

The area under **Barley** in 1908 was 1,667,437 acres in Great Britain, showing a decrease of about 45,000 acres on the previous year, which gave a record for the small area of this crop. The decrease was very generally distributed, being slightly more pronounced in the south.

There was a decrease in Great Britain of 13,980 acres of **Oats**, which now occupy an area of 3,108,918 acres. The decrease was made up of losses of 8,872 acres in England, 2,313 in Wales, and 2,795 in Scotland. In the rest of the United Kingdom, namely, Ireland, the Isle of Man, and the Channel Islands, there was a further loss of 15,183 acres, the vast bulk of which must have been in Ireland.

The increase of 20,839 acres in **Beans**, noted in last year's Report, was unfortunately not maintained in 1908; there being on the contrary a loss of 14,707 acres in Great Britain, of which 12,525 were in England, 490 in Wales, and 1,691 in Scotland. The total area of Beans in Great Britain is now 295,024 acres. **Peas** also showed a diminution of area last year of 2,397 acres, as against an increase of 12,157 in the previous year. They now occupy an area of 163,739 acres in Great Britain, of which 162,023 are in England. In the rest of

the United Kingdom there are only a few hundred acres of them.

Potatoes showed an increase in Great Britain of 13,185 acres, made up of increases of 9,192 acres in England, and 4,804 acres in Scotland, against which must be set a decrease of 811 acres in Wales. The total acreage in 1908 was 562,105 acres as against 548,920 acres in 1907. **Turnips** and **Swedes** once again showed a decline, in this case of 12,081 acres as against 27,942 acres in the previous year, when the lowest acreage on record was reached. This has unfortunately now been still further diminished, and stood last year at 1,550,900.

Mangolds, which afforded some satisfaction by an increase of about 18,000 acres in 1907, had in 1908 decreased by 22,281 acres as compared with the previous year. There were 427,770 acres of them.

The area of **Lucerne** once again increased, but by a smaller amount than the previous year, when an increase of 8,000 acres was recorded. Last year it was 1,361 acres, bringing the total in Great Britain up to 65,156 acres.

The **Small Fruit** area, which was 84,870 acres, showed an increase of 2,705 acres, of which 2,378 were in England, and 340 in Scotland, while the area in Wales was practically unchanged.

The acreage of **Orchards** was practically unchanged, being in 1908, 250,288 acres as against 250,176 acres in 1907.

There was a decrease of the total area under **Clover** and **Rotation Grasses** by 69,374 acres, which more than counterbalances the increase of the previous year, which was 58,732. In England there was a decrease of 55,214 acres, in Wales of 8,608, and in Scotland of 5,552 acres. The whole area last year in Great Britain was 4,421,587 acres.

The total land under **Permanent Grass** in Great Britain last year reached an area of 17,415,869 acres, being an increase of 137,985 acres over that of 1907. The greater portion of this increase, namely, 93,062 acres, was in England.

Considering now the two classes of permanent grass, "For Hay" and "Not for Hay," separately, we find that the first class increased by 13,228 acres, or only 0.3 per cent., while the latter took up 124,757 acres, or 1 per cent. of its previous area. Eighteen counties showed an increase of acreage of "Grass for Hay," the ones showing the largest being Kent, Lancaster, and Sussex.

Twenty-eight counties showed an increase in grass "Not for Hay," those contributing the largest amount being Buckingham, Chester, Devon, Gloucester, Leicester, Lincoln, Northampton, Salop, and Warwick, with increases of over 5,000 acres each.

LIVE STOCK RETURNS.

Considering now the portion of the returns devoted to Live Stock, the numbers given for June, 1908, show an increase of 924,275 sheep, or 3·5 per cent., which is accompanied by an increase of 186,716 pigs, or 7·1 per cent. Unfortunately against these must be put decreases of 10,698, or 0·7 per cent. of horses, and 6,933, or 0·1 per cent. of cattle.

The return of **Horses** shows a falling off on the total of only 0·7 per cent., and it is noticeable that this is confined to the case of unbroken horses of one year and over, of which there is a decrease of 14,143, there being an increase of 3,397 in those used for agricultural purposes. It is unfortunate that this diminution of unbroken horses should continue, as it seems to show that it no longer pays to breed them.

The number of **Cattle** recorded last year in Great Britain (6,905,134) showed a decrease of 6,933, whereas in the whole United Kingdom there was an increase of 109,680. The increases and decreases were spread over different parts of the country, contiguous counties often showing one a decrease and the other an increase. Thus Kent shows a decrease of 3·8 per cent., while Surrey gives an increase of nearly 3·9 per cent.

The number of **Sheep** in Great Britain, on the other hand, showed an increase of 1,004,275, bringing the total up to 27,119,750, and this increase occurred in spite of an importation of about 1,600,000*l.* worth of foreign sheep over and above the figure for the previous year. The increases were in "Ewes kept for breeding," 291,949; in "Other Sheep," 439,170; and in lambs, 273,156. As in the case of the cattle, it seems difficult to apply any general remarks to the locality of the increase of sheep, but on the whole they seem to have increased most in the neighbourhood of the great centres of population, especially in the north midlands. In Kent, Suffolk, and Norfolk there were considerable increases, and also in some of the counties on the south coast. On the whole, however, the increase was in patches, and not general.

The number of **Pigs** in 1908 was 2,823,482, an increase of 186,716 over the previous year, but it is unfortunate that in the case of "Sows kept for breeding" there was a decrease of 10,791, or 2·8 per cent., thus reversing the experience of the previous year.

PRODUCE RETURNS.

The preliminary returns issued by the Board of Agriculture and Fisheries have in this, as in previous years, been utilised to complete Tables II. and III. in this volume, and from them the following conclusions may be drawn:—

The **Wheat** crop of the year for Great Britain was 6,565,370 quarters, a decrease of 335,400 quarters since the previous year,

TABLE I.—*Acreage under Crops and Grass; and Number of and Scotland, with totals for Great Britain and for the*

Crops, Grass, and Live Stock.	England		Wales	
	1908	1907	1908	1907
Total Area (excluding water)	Acres 32,381,908		Acres 4,748,398	
Total Acreage under Crops and Grass ¹	24,560,399	24,585,455	2,787,514	2,791,514
Arable Land	10,659,477	10,777,595	746,709	769,482
Permanent Grass ¹	13,900,922	13,807,860	2,040,805	2,022,032
Wheat	1,548,732	1,537,208	34,573	39,930
Barley or Bere	1,383,326	1,411,163	86,693	90,622
Oats	1,958,810	1,967,682	201,595	203,908
Rye	45,842	53,837	951	737
Beans	283,661	296,186	1,116	1,606
Peas	162,023	164,326	753	863
TOTAL CORN CROPS	5,382,394	5,430,402	325,681	337,666
Potatoes	391,083	381,891	27,330	28,141
Turnips and Swedes	1,052,488	1,058,292	57,416	58,496
Mangold	415,360	436,193	10,432	11,056
Cabbage	60,489	65,262	717	822
Kohl-Rabi	17,177	20,572	65	82
Rape	74,303	79,913	4,642	4,441
Vetches or Tares	117,502	145,067	618	832
Lucerne	64,760	63,379	368	338
Hops	38,921	44,938	—	—
Small Fruit	75,750	73,372	1,200	1,213
Clover, Sainfoin, and Grass under Rotation	2,556,508	2,611,722	311,387	319,995
Other Crops	111,532	117,914	1,072	1,195
Bare Fallow	301,210	248,678	5,781	5,205
Horses used for Agricultural purposes	No. 866,709	No. 863,817	No. 96,827	No. 96,444
Unbroken } One year and above	222,179	234,495	42,285	43,869
Horses } Under one year	91,014	90,835	22,150	22,185
TOTAL OF HORSES	1,179,902	1,189,147	161,262	162,498
Cows and Heifers { In milk	1,592,919	1,590,010	240,160	241,171
Heifers { In calf but not in milk	453,593	442,274	45,225	46,836
Other Cattle:—Two years and above	1,039,191	1,043,034	84,646	96,096
" " One year and under two	966,303	992,084	173,179	174,024
" " Under one year	946,272	920,329	189,241	180,757
TOTAL OF CATTLE	4,998,278	4,987,731	732,451	738,884
Ewes kept for Breeding	5,980,125	5,750,187	1,545,507	1,512,828
Other Sheep:—One year and above	3,366,497	2,994,392	817,245	822,049
" " Under one year	6,612,253	6,354,349	1,358,608	1,368,495
TOTAL OF SHEEP	15,958,875	15,098,958	3,721,360	3,703,372
Sows kept for Breeding	315,524	321,740	37,510	39,718
Other Pigs	2,123,563	1,935,396	203,101	193,278
TOTAL OF PIGS	2,439,087	2,257,136	240,611	232,996

¹ Not including Mountain and Heath Land used for grazing.

Live Stock, on June 4, 1908 and 1907, in England, Wales, United Kingdom.

Scotland		Great Britain		United Kingdom, including Ireland, Isle of Man, and the Channel Islands	
1908	1907	1908	1907	1908	1907
Acres 19,069,674		Acres 56,200,006		Acres 77,096,022	
4,863,473	4,866,478	32,211,381	32,243,447	47,001,961	46,997,546
3,389,331	3,418,486	14,795,512	14,965,563	19,478,399	19,585,826
1,474,142	1,447,992	17,415,869	17,277,884	27,523,562	27,411,720
43,428	48,307	1,626,733	1,625,455	1,664,860	1,665,017
197,418	210,309	1,667,437	1,712,094	1,824,410	1,885,359
948,513	951,308	3,108,918	3,122,898	4,189,378	4,218,541
5,951	6,637	52,744	61,211	60,962	70,204
10,247	11,938	295,024	309,730	296,918	311,684
963	947	163,739	166,136	164,183	166,008
1,206,520	1,229,446	6,914,595	6,997,514	8,200,711	8,317,413
143,692	138,888	562,105	548,920	1,161,122	1,151,632
440,993	446,190	1,550,897	1,562,978	1,837,997	1,846,128
1,980	2,804	427,772	450,053	500,740	518,019
7,914	8,812	69,120	74,896	215,674	229,009
10	33	17,252	20,637		
7,550	6,918	86,495	91,272		
7,963	8,157	126,083	154,056	128,276	156,157
28	78	65,156	63,795	—	—
—	—	38,921	44,938	38,922	44,938
7,930	7,590	84,880	82,175	97,570	94,175
1,553,692	1,559,244	4,421,587	4,490,961	6,725,921	6,693,017
2,798	2,759	115,402	121,868	256,004	273,621
8,261	7,567	315,252	261,450	315,462	261,717
No.	No.	No.	No.	No.	No.
155,788	155,666	1,119,324	1,115,927	1,501,508	1,489,064
35,345	35,568	299,809	313,952	398,770	415,266
13,374	13,470	126,538	126,490	188,317	184,602
204,507	204,724	1,545,671	1,556,369	2,088,595	2,088,932
364,684	367,032	2,197,763	2,198,213	4,368,237	4,338,086
67,199	71,923	566,017	561,033		
247,851	249,811	1,371,688	1,388,941		
276,001	274,306	1,415,483	1,440,414	2,475,373	2,449,410
218,670	222,380	1,354,183	1,323,466	2,476,880	2,407,059
1,174,405	1,185,452	6,905,134	6,912,067	11,738,163	11,628,483
3,043,457	3,014,125	10,569,089	10,277,140	12,242,197	11,833,083
1,449,025	1,377,156	5,632,767	5,193,597	6,403,569	5,896,549
2,947,013	2,921,874	10,917,874	10,644,718	12,690,151	12,281,587
7,439,495	7,313,155	27,119,730	26,115,455	31,335,917	30,011,219
16,442	18,809	369,476	380,267	495,300	524,589
127,342	127,825	2,454,006	2,256,499	3,560,416	3,442,235
143,784	146,634	2,823,482	2,636,766	4,055,716	3,966,824

TABLE II.—*Statement of the Acreage of Wheat, Barley, and Oats, and Numbers of Live Stock in each County of Great Britain on June 4, 1908.*

COUNTIES	Corn Crops			Live Stock		
	Wheat	Barley	Oats	Cattle	Sheep	Pigs
	1908	1908	1908	1908	1908	1908
ENGLAND:						
Bedford	Acres 34,827	Acres 13,194	Acres 21,788	No. 36,079	No. 92,087	No. 32,038
Berks	33,552	20,595	34,867	48,118	167,413	26,171
Buckingham	29,816	13,642	27,979	79,785	201,416	32,387
Cambridge	92,665	51,682	51,734	58,920	173,823	62,029
Chester	12,758	1,054	64,573	179,629	177,528	89,525
Cornwall	17,120	30,693	66,033	219,890	410,055	104,813
Cumberland	1,088	1,368	68,606	156,238	647,410	17,243
Derby	11,476	5,339	23,328	140,374	155,746	33,407
Devon	41,081	33,582	127,173	294,947	883,538	106,175
Dorset	19,035	19,344	33,849	90,346	330,363	57,793
Durham	9,582	19,131	32,211	76,725	257,751	15,211
Essex	112,042	62,166	71,309	96,406	251,933	94,024
Gloucester	39,569	23,740	33,732	132,749	386,058	84,177
Hants	56,694	28,987	83,638	90,962	351,897	70,892
Hereford	18,152	17,658	25,767	102,408	377,964	33,116
Hertford	51,067	20,669	37,519	40,741	110,196	28,680
Huntingdon	30,749	19,549	12,737	29,464	88,854	21,494
Kent	43,550	30,311	45,517	85,284	942,863	78,115
Lancaster	16,397	3,230	81,005	236,045	356,096	82,426
Leicester	18,544	9,279	24,401	145,575	336,302	28,195
Lincoln	165,264	193,861	130,586	253,462	1,059,171	134,044
London	32	—	130	3,741	3,008	2,106
Middlesex	2,270	402	2,382	14,751	16,565	16,047
Monmouth	4,185	3,070	8,268	49,718	251,209	18,218
Norfolk	117,477	176,813	89,594	136,886	515,704	118,984
Northampton	40,417	33,773	28,848	135,844	333,529	36,098
Northumberland	5,055	30,732	41,332	121,823	1,128,331	12,276
Notts	34,000	30,536	40,952	85,228	194,357	35,196
Oxford	33,703	34,643	34,485	66,336	226,842	35,887
Rutland	4,450	9,181	4,177	20,042	84,792	2,971
Salop	21,658	44,443	47,078	190,299	535,339	85,191
Somerset	28,657	17,550	28,907	241,069	482,207	131,852
Stafford	17,541	12,224	38,291	166,993	245,184	57,010
Suffolk	102,847	121,781	52,794	77,368	365,126	174,262
Surrey	15,735	4,568	22,520	45,138	66,549	26,409
Sussex	46,253	7,959	58,542	121,444	409,933	47,167
Warwick	27,676	10,608	29,571	117,122	276,364	40,471
Westmorland	122	404	13,726	70,438	414,644	4,767
Wilts	48,324	22,283	52,009	121,640	476,626	64,124
Worcester	23,519	6,228	21,029	75,167	182,576	51,224
York, E. Riding	63,464	71,782	91,479	94,091	483,869	70,717
„ N. Riding	19,472	74,591	71,398	177,292	759,305	61,965
„ W. Riding	36,847	50,678	82,946	272,701	730,332	121,180

TABLE II.—*continued.*—Acreage of Wheat, Barley, and Oats, and Numbers of Live Stock in each County of Great Britain on June 4, 1908.

COUNTIES (continued)	Corn Crops			Live Stock		
	Wheat	Barley	Oats	Cattle	Sheep	Pigs
	1908	1908	1908	1908	1908	1908
WALES:						
	Acres	Acres	Acres	No.	No.	No.
Anglesey	134	1,349	18,765	54,551	118,756	15,629
Brecon	2,100	3,336	10,951	40,212	519,386	8,241
Cardigan	4,950	14,193	26,382	68,420	277,598	22,606
Carmarthen	6,152	11,713	24,311	117,647	288,207	38,175
Carnarvon	244	5,014	10,423	52,933	292,787	18,263
Denbigh	3,937	11,445	23,572	69,486	409,516	30,833
Flint	2,407	4,357	10,408	38,037	115,584	21,170
Glamorgan	3,358	5,705	10,400	56,986	331,743	17,194
Merioneth	527	3,581	8,522	36,725	434,018	7,447
Montgomery	6,855	6,517	19,949	72,220	475,544	24,575
Pembroke	2,068	16,174	26,685	92,386	157,973	31,673
Radnor	1,841	3,309	11,217	32,848	300,248	4,805
SCOTLAND:						
Aberdeen	—	20,061	188,132	167,244	257,249	13,778
Argyll	—	1,397	16,924	58,235	865,410	4,616
Ayr	803	545	42,857	99,710	373,708	13,936
Banff	—	8,051	48,851	43,540	68,398	3,610
Berwick	1,773	18,783	31,596	17,935	336,643	3,974
Bute	—	26	4,625	9,095	44,632	616
Caithness	—	936	32,026	21,207	133,663	1,684
Clackmannan	229	317	3,089	3,461	15,657	940
Dumbarton	483	62	6,879	14,068	75,768	1,249
Dumfries	76	488	41,106	63,018	578,308	9,280
Elgin, or Moray	394	11,261	23,266	23,266	64,696	2,798
Fife	9,207	20,049	38,585	46,112	130,793	5,884
Forfar	7,805	27,430	48,569	47,850	178,989	6,849
Haddington	4,545	15,176	16,581	11,834	140,152	1,939
Inverness	92	7,158	29,966	50,188	559,316	2,550
Kincardine	613	12,348	26,590	23,526	54,376	2,839
Kinross	66	341	6,079	6,465	38,204	690
Kirkcudbright	24	36	25,326	51,260	411,982	9,970
Lanark	1,697	260	36,996	71,636	257,779	7,226
Linlithgow	1,651	2,507	10,078	11,306	25,745	1,431
Midlothian	4,987	5,090	21,485	19,145	190,396	8,798
Nairn	—	3,026	5,626	5,919	18,570	627
Orkney	—	4,386	33,088	28,725	37,504	2,333
Peebles	—	325	6,993	7,153	206,452	590
Perth	4,332	10,278	66,760	70,770	702,207	7,548
Renfrew	1,469	35	10,337	25,016	43,700	1,444
Ross and Cromarty	1,167	10,785	29,862	42,739	289,785	4,811
Roxburgh	444	11,063	26,925	18,172	549,026	3,159
Selkirk	—	265	4,610	3,320	186,174	447
Shetland	—	1,341	7,705	17,361	133,955	1,411
Stirling	1,424	2,212	17,893	30,562	130,906	1,945
Sutherland	—	784	7,843	11,557	209,365	764
Wigtown	144	596	31,265	53,010	129,987	14,048

TABLE III.—Produce of Crops—*Estimated Total Produce and Yield per Acre of the undermentioned Crops in Great Britain in the Year 1908, with Comparisons for 1907, and the Average Yield per Acre of the Ten Years 1898-1907.*

Crops		Estimated total produce		Acreage		Average estimated yield per acre		Average of the ten years
		1908	1907	1908	1907	1908	1907	
Wheat		Qrs.	Qrs.	Acres	Acres	Bush.	Bush.	Bush.
	England. . .	6,223,659	6,526,242	1,548,732	1,537,208	32.15	33.96	31.65
	Wales . . .	117,010	137,932	34,573	39,921	27.08	27.64	26.37
	Scotland. . .	224,701	236,600	43,428	48,307	41.39	39.18	38.97
	Great Britain	6,565,370	6,900,774	1,626,733	1,625,436	32.29	33.96	31.70
Barley								
	England. . .	5,615,155	6,292,461	1,383,326	1,411,163	32.47	35.67	33.20
	Wales . . .	324,945	349,098	86,693	90,622	29.99	30.82	31.37
	Scotland. . .	898,981	904,714	197,418	210,309	36.43	34.41	35.59
	Great Britain	6,839,081	7,546,273	1,667,437	1,712,094	32.81	35.26	33.38
Oats								
	England. . .	9,993,773	11,464,406	1,958,736	1,967,671	40.82	46.61	42.01
	Wales . . .	864,419	948,697	201,595	203,908	34.30	37.22	34.69
	Scotland. . .	4,609,424	4,385,912	948,513	951,011	38.88	36.89	36.41
	Great Britain	15,467,616	16,799,015	3,108,844	3,122,590	39.80	43.04	39.75
Beans								
	England. . .	1,057,467	1,270,946	282,573	295,129	29.94	34.45	29.85
	Wales . . .	3,714	5,635	1,083	1,572	27.43	28.68	26.64
	Scotland. . .	44,261	52,049	9,572	11,430	36.99	36.43	34.61
	Great Britain	1,105,442	1,328,630	293,228	308,131	30.16	34.50	30.06
Peas								
	England. . .	540,404	587,774	153,086	159,431	28.24	29.49	27.34
	Wales . . .	2,094	2,214	746	845	22.46	20.96	21.47
	Scotland. . .	2,035	2,089	566	600	28.76	27.86	26.34
	Great Britain	544,533	592,077	154,398	160,876	28.21	29.44	27.29
Potatoes		Tons	Tons			Tons	Tons	Tons
	England. . .	2,719,539	2,097,814	391,083	381,891	6.95	5.49	5.75
	Wales . . .	151,700	115,203	27,330	28,141	5.55	4.09	4.99
	Scotland. . .	1,048,559	764,468	143,092	138,888	7.30	5.50	6.03
	Great Britain	3,919,798	2,977,485	562,105	548,920	6.97	5.42	5.78
Turnips and Swedes								
	England. . .	14,485,867	14,665,737	1,052,488	1,058,292	13.76	13.86	12.25
	Wales . . .	933,309	881,936	57,416	58,496	16.26	15.08	14.73
	Scotland. . .	8,319,031	6,538,045	440,993	446,202	18.86	14.65	15.22
	Great Britain	23,738,207	22,085,718	1,550,897	1,562,990	15.31	14.13	13.16
Mangold								
	England. . .	8,748,524	8,690,789	415,360	436,193	21.06	19.92	19.35
	Wales . . .	190,117	203,864	10,432	11,056	18.80	18.44	17.16
	Scotland. . .	42,520	42,269	1,980	2,792	21.47	15.14	17.33
	Great Britain	8,987,161	8,936,922	427,772	450,041	21.01	19.86	19.28
Hay from Clover, Sainfoin, &c.						Cwt.	Cwt.	Cwt.
	England. . .	2,597,094	2,738,779	1,626,832	1,644,622	31.93	33.31	29.85
	Wales . . .	228,448	252,918	178,537	183,502	25.59	27.57	25.21
	Scotland. . .	681,926	718,280	426,984	422,195	31.94	34.03	32.53
	Great Britain	3,507,468	3,709,977	2,232,353	2,250,319	31.42	32.97	29.95
Hay from Permanent Grass								
	England. . .	5,419,056	5,941,256	4,267,562	4,275,730	25.40	27.79	24.57
	Wales . . .	559,871	561,838	529,098	517,194	21.16	21.73	19.60
	Scotland. . .	235,504	216,163	152,378	143,011	30.91	30.23	29.73
	Great Britain	6,214,431	6,719,257	4,949,038	4,935,935	25.11	27.23	24.21

TABLE IV.—*Estimated Total Production of Hops in the Years 1908 and 1907, with the Acreage and Average Yield per Statute Acre, in each County in which Hops were grown.*

COUNTIES	Estimated total produce		Acreage		Average yield per acre	
	1908	1907	1908	1907	1908	1907
	Cwt.	Cwt.	Acres	Acres	Cwt.	Cwt.
Kent { East . . .	84,469	62,035	7,364	8,996	11'47	6'90
Mid. . . .	118,003	66,117	7,900	9,647	14'94	6'85
Weald . . .	108,843	93,703	8,711	9,526	12'49	9'84
Total, Kent	311,315	221,860	23,975	28,169	12'98	7'88
Hants . . .	21,176	17,865	1,636	1,842	12'94	9'70
Hereford . . .	54,554	58,268	5,572	6,143	9'79	9'48
Salop	1,015	910	113	129	8'98	7'05
Surrey	8,021	7,089	648	744	12'38	9'53
Sussex	40,203	39,679	3,579	4,243	11'23	9'35
Worcester . . .	34,256	28,216	3,353	3,622	10'22	7'79
Other Counties ¹ .	221	242	45	46	4'91	5'25
Total. . . .	470,761	374,129	38,921	44,938	12'10	8'33

TABLE V. (a)—*Number and Size of Agricultural Holdings in each Division of England, in Wales, in Scotland, and in Great Britain in the Year 1908.*

—	1—5 acres	5—50 acres	50—300 acres	Above 300 acres	Total number	Average size, acres ²
England—						
Division I. . .	18,574	32,413	22,732	5,001	78,720	78
Do. II. . . .	16,712	32,891	22,728	3,889	76,220	73
Do. III. . . .	22,313	41,340	29,733	3,397	96,783	65
Do. IV. . . .	22,238	58,621	34,637	2,364	117,860	54
Total of England .	79,837	165,265	109,830	14,651	369,583	66
Wales	10,121	31,953	18,034	390	60,498	46
Scotland	18,136	34,601	23,138	2,673	78,548	62
Great Britain . .	108,094	231,819	151,002	17,714	508,629	63

TABLE V. (b)—*Area of Cultivated Land farmed by Tenants and by Owners respectively, and Number of Holdings Rented and Owned, or Mainly Owned, respectively.*

—	Acreage occupied by tenants	Acreage occupied by owners	Number of holdings rented or mainly rented.	Number of holdings owned or mainly owned.
	Acres	Acres	No.	No.
England.	21,514,706	3,045,693	321,192	48,391
Wales	2,499,379	288,135	54,020	6,478
Scotland.	4,269,998	593,475	72,120	6,419
Great Britain . . .	28,284,083	3,927,303	447,341	61,288

¹ Gloucester and Suffolk. In 1908 Gloucester only.

² From the information compiled for 1907.

TABLE VI. (a)—*Average Prices of British Corn per Imperial Quarter in England and Wales, as ascertained under the Corn Returns Act, 1882, in each Week of the Year 1908.*

Week ended	Wheat	Barley	Oats	Week ended	Wheat	Barley	Oats
<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
January 4	35 1	26 9	18 4	July 4	30 11	23 11	18 7
January 11	35 2	26 9	18 3	July 11	30 5	24 4	18 5
January 18	35 5	27 1	18 5	July 18	30 7	23 1	18 5
January 25	35 6	26 11	18 5	July 25	31 5	26 5	18 6
February 1	35 0	26 11	18 4	August 1	31 10	24 4	18 7
February 8	34 3	26 9	18 3	August 8	31 6	23 1	18 9
February 15	33 1	26 9	18 0	August 15	31 6	23 10	18 1
February 22	32 6	26 5	17 11	August 22	31 2	24 5	17 10
February 29	30 11	26 3	17 8	August 29	30 10	24 5	17 1
March 7	30 5	26 1	17 8	September 5	30 10	25 5	17 3
March 14	31 3	26 0	17 10	September 12	31 5	25 11	17 6
March 21	31 7	26 2	17 11	September 19	31 7	26 0	17 3
March 28	31 4	25 10	17 10	September 26	31 5	26 8	17 2
April 4	31 3	25 5	17 9	October 3	31 7	26 11	17 2
April 11	31 2	25 10	17 7	October 10	31 5	27 5	17 0
April 18	30 11	26 1	17 7	October 17	31 2	27 6	17 0
April 25	30 10	25 5	17 9	October 24	30 11	27 5	16 11
May 2	31 6	25 8	18 0	October 31	30 8	27 5	16 11
May 9	32 4	25 5	18 4	November 7	30 11	27 6	17 0
May 16	33 1	24 9	18 7	November 14	31 2	27 4	17 0
May 23	33 8	25 9	18 10	November 21	31 10	27 3	17 3
May 30	33 5	24 6	18 8	November 28	32 3	27 2	17 5
June 6	33 1	25 10	18 4	December 5	32 7	27 2	17 4
June 13	32 7	24 5	18 4	December 12	32 8	27 0	17 4
June 20	32 0	24 2	18 5	December 19	32 9	26 9	17 3
June 27	31 5	24 0	18 7	December 26	32 2	26 8	17 2
Average of year.					32 0	25 10	17 10

TABLE VI. (b)—*Annual Average Prices per Quarter and total Quantities of British Corn sold in the Towns in England and Wales making Returns under the Corn Returns Act, 1882, in the undernoted Years.*

Year	Wheat	Barley	Oats	Wheat	Barley	Oats
<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	Qrs.	Qrs.	Qrs.
1904	28 4	22 4	16 4	2,138,142	3,437,176	1,316,516
1905	29 8	24 4	17 4	2,467,551	3,265,613	1,073,611
1906	28 3	24 2	18 4	2,684,101	3,210,995	1,011,931
1907	30 7	25 1	18 10	2,722,847	3,317,521	1,374,260
1908	32 0	25 10	17 10	3,293,506	3,293,916	1,304,223

TABLE VI. (c)—*Annual and Septennial Average Prices per Bushel of British Corn in the undernoted Years, with the Value of 100l. of Tithe Rent-charge.*

Year	Annual average price			Septennial average price			Value of tithe rent-charge of 100l.	
	Wheat	Barley	Oats	Wheat	Barley	Oats	Calculated on annual average	Calculated on septennial average
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	£ <i>s. d.</i>	£ <i>s. d.</i>
1904	3 6½	2 9½	2 0½	3 6	3 1	2 2¾	65 1 5	69 12 0½
1905	3 8½	3 0½	2 2	3 5	3 0½	2 2½	69 9 7¾	68 12 0½
1906	3 6½	3 0½	2 3½	3 5¾	3 0½	2 2¾	69 18 7¾	68 19 6½
1907	3 9¾	3 1½	2 4½	3 6½	3 0½	2 4½	72 19 0½	69 10 6½
1908	4 0	3 2¾	2 2¾	3 7½	3 0½	2 3	73 4 1	69 18 5½

TABLE VII.—Average Prices of Fat Cattle per cwt. (Live Weight) at the undermentioned places in England and Scotland, for the years 1901 to 1907 inclusive. Compiled from the Returns received under the Markets and Fairs (Weighing of Cattle) Act, 1891.

Places	1901	1902	1903	1904	1905	1906	1907
ENGLAND—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Carlisle	32 2	33 2	33 6	31 11	31 6	31 6	32 6
Leeds	33 0	35 6	34 4	33 4	32 11	33 0	33 2
Leicester	33 2	35 2	33 6	32 2	32 9	31 11	32 6
Liverpool	33 0	34 10	32 8	32 1	31 3	30 10	32 6
London	37 0	39 4	36 4	35 6	35 4	34 10	35 9
Newcastle	36 0	38 10	37 0	36 2	34 8	35 4	36 1
Shrewsbury	32 10	33 10	33 6	31 9	31 6	31 3	33 4
SCOTLAND—							
Aberdeen	32 10	34 9	33 4	32 8	32 6	32 5	32 8
Dundee	33 6	34 11	33 3	32 7	32 0	31 11	32 8
Edinburgh	35 3	37 4	35 5	34 10	33 10	34 2	35 1
Glasgow	35 5	37 10	36 3	35 8	32 6	32 5	33 1
Perth	36 9	37 4	35 1	33 3	34 4	34 6	35 8
England	33 9	35 5	34 1	33 1	32 8	32 6	33 6
Scotland	34 1	36 2	34 6	33 9	33 0	33 0	33 9
Great Britain	34 0	35 11	34 4	33 7	32 11	32 11	33 8

TABLE VIII.—Average Prices of Wool in the undernoted Years.

Year	ENGLISH				AUSTRALIAN ³	NEW ZEALAND ³	SOUTH AFRICAN ³
	Leicester ¹	Half-breds ¹	Southdown ¹	Lincoln ²			
	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.	Per lb.
	d. d.	d. d.	d. d.	d. d.	d. d.	d. d.	d. d.
1889	9¾ to 10½	10¼ to 11	10¼ to 12½	11	10¾	10¼	10¾
1890	10 " 10½	10¾ " 11½	11 " 13	11	11	10¾	10¾
1891	9½ " 10	10 " 10¾	10½ " 13	9¾	9¾	9¾	9¾
1892	8½ " 9	9¾ " 10¼	10½ " 12½	8¾	8¾	9¼	9¾
1893	8½ " 9¼	9½ " 10¼	10½ " 12	10¼	8¾	9½	9¼
1894	9 " 10	9½ " 10¾	9¾ " 12	10½	8½	9	9¾
1895	9½ " 10½	9¾ " 11	9¾ " 11½	12	8	8½	9¼
1896	9¾ " 11	9¾ " 10¾	9¾ " 11¼	11½	8½	8¾	7¾
1897	8¾ " 10	8¾ " 9¾	8¾ " 10½	9½	8	8	7½
1898	8 " 8¾	7¾ " 8¾	8½ " 9¾	8¾	8¾	8¾	7½
1899	7 " 8	7¾ " 8¼	7¾ " 11	8¼	9½	8	7¼
1900	6½ " 7½	6¾ " 8¾	8 " 12	7¾	11	8½	8¾
1901	5½ " 6	5½ " 9¼	7¼ " 9¼	6¾	8¼	6¾	7
1902	5 " 5¾	5¾ " 6¾	7¼ " 9½	6¼	8½	6½	7¾
1903	6½ " 6¾	7½ " 8	8½ " 11½	7¼	9¾	7¾	7½
1904	8¾ " 9¾	9½ " 10½	9½ " 11¾	10½	10	8½	7¾
1905	11¾ " 12	11¾ " 12¾	11¾ " 13¼	12½	10¼	9¾	7¾
1906	12¾ " 13	13¾ " 14½	14½ " 15½	14½	11	11¾	8¾
1907	12¾ " 12¾	12¾ " 13¾	13¾ " 15	12¼	10¾	11½	8¾

¹ Computed from the prices given weekly in *The Economist* newspaper.

² Prices extracted from "*The Yorkshire Daily Observer Wool Tables*."

³ Calculated from the Trade and Navigation Accounts.

TABLE IX. (a)—*Quantities and Values of Corn Imported into the United Kingdom in the undernoted Years.*

Description	Quantities			Values		
	1906	1907	1908	1906	1907	1908
	Cwt.	Cwt.	Cwt.	£	£	£
Wheat	92,967,200	97,168,000	91,132,705	32,676,185	37,346,830	38,295,940
Wheat meal and flour	14,190,300	13,297,357	12,969,855	6,817,213	6,694,532	7,075,231
Barley	19,934,500	19,628,620	18,137,200	5,677,587	6,565,006	6,113,945
Oats	15,286,500	10,488,290	14,271,150	4,532,160	3,384,577	4,162,775
Peas	1,453,420	1,245,670	1,060,999	614,649	602,648	538,315
Beans	634,280	799,569	1,043,097	231,758	290,693	373,018
Maize	46,685,200	53,378,950	33,841,000	11,972,694	14,604,159	10,388,061
Oatmeal and groats .	661,809	638,702	500,698	495,980	479,352	416,134
Maize meal	616,200	658,656	450,410	195,302	213,581	159,484
Other kinds of corn and meal . . . }	1,746,352	1,588,958	1,618,180	609,553	644,789	682,289

TABLE IX. (b)—*Countries from which Wheat, and Wheat Meal or Flour, were Imported into the United Kingdom in the undernoted Years.*

Countries	1904	1905	1906	1907	1908
WHEAT from—	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Russia	29,529,500	24,703,200	15,017,500	10,900,300	4,609,710
Germany	251,000	300,000	71,800	19,900	90,000
Turkey	431,200	244,800	242,100	522,600	403,500
Roumania	1,491,800	2,082,200	3,780,900	3,256,900	1,837,000
United States . . .	7,051,600	6,634,700	22,490,900	20,696,900	27,123,400
Chile	915,400	162,800	800	85,100	2,210,700
Argentina	21,440,400	23,236,400	19,176,500	21,900,600	31,680,200
Brit. E. Indies . .	25,493,000	22,807,422	12,636,200	18,269,600	2,948,900
Australasia	10,630,700	10,404,600	7,864,500	8,327,500	5,518,200
Canada	6,195,300	6,522,030	11,309,700	12,469,700	14,442,195
Other countries . .	352,600	524,600	376,300	719,800	268,900
TOTAL WHEAT.	97,782,500	97,622,752	92,967,200	97,168,800	91,132,705
WHEAT MEAL AND FLOUR from—	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Germany	264,740	479,300	190,600	321,030	309,020
France	1,486,920	1,034,503	560,500	661,700	302,900
Austria-Hungary .	733,294	622,885	628,230	428,553	250,304
United States . . .	8,252,602	5,685,418	9,809,270	9,324,554	9,781,829
Canada	2,045,767	1,330,100	1,810,500	1,837,920	1,705,532
Other countries . .	1,939,570	2,802,557	1,191,200	723,600	620,270
TOTAL WHEAT MEAL AND FLOUR	14,722,893	11,954,763	14,190,300	13,297,357	12,969,855

TABLE X.—*Number and Value of Cattle, Sheep, and Swine Imported into and Exported from the United Kingdom in the undernoted Years.*

(a) IMPORTS.

	Number			Value		
	1906	1907	1908	1906	1907	1908
CATTLE from—				£	£	£
Channel Islands	1,639	1,801	1,343	29,330	30,905	23,035
Canada . . .	160,689	125,753	121,076	2,765,440	2,150,469	2,066,297
United States .	393,887	344,461	260,711	6,937,410	5,923,735	4,459,953
TOTAL .	561,215	472,015	383,130	9,732,180	8,105,109	6,549,285
SHEEP & LAMBS						
from—Canada .	14,296	14,485	12,167	22,228	26,216	19,439
United States .	84,184	88,584	64,218	127,401	139,150	99,942
Other countries ¹	4,879	2,532	2,515	7,318	3,165	3,144
TOTAL .	103,359	105,601	78,900	156,947	168,531	122,525
TOTAL VALUE .	—	—	—	9,889,127	8,273,640	6,671,810
SWINE . . .	—	—	—	—	—	—

(b) EXPORTS.

CATTLE to—				£	£	£
Channel Islands.	1,621	—	—	22,931	—	—
Canada . . .	161	—	—	6,044	—	—
United States .	521	—	—	15,454	—	—
Argentina . .	2,329	—	—	215,231	—	—
Other countries .	984	—	—	67,675	—	—
TOTAL .	5,616	5,066	3,895	327,335	227,316	152,607
SHEEP & LAMBS						
to—Australasia	583	—	—	—	—	—
Canada . . .	1,135	—	—	—	—	—
United States .	652	—	—	—	—	—
Argentina . .	7,999	—	—	—	—	—
Germany . .	735	—	—	—	—	—
Other countries .	—	—	—	—	—	—
TOTAL .	12,716	10,063	5,919	204,061	134,707	70,278
SWINE . . .	2,221	1,360	700	20,292	11,077	7,073

¹ Given in previous years as Iceland and Greenland.

TABLE XI.—*Number and Value of Horses Imported into and Exported from the United Kingdom in the undernoted Years.*

(a) IMPORTS.

Countries	Number			Value		
	1906	1907	1908	1906	1907	1908
HORSES from—				£	£	£
Canada . .	225	166	167	10,822	7,090	8,916
Denmark . .	80	— ¹	— ¹	2,825	— ¹	— ¹
France . .	1,493	— ¹	— ¹	201,078	— ¹	— ¹
Germany . .	172	— ¹	— ¹	3,294	— ¹	— ¹
Holland . .	1,079	— ¹	— ¹	108,096	— ¹	— ¹
Russia . .	11,665	— ¹	— ¹	123,886	— ¹	— ¹
United States .	818	786	1,346	36,795	40,575	101,194
Other countries	2,316	14,970	11,703	48,736	381,884	302,497
TOTAL .	17,848	15,922	13,216	535,532	429,549	412,607

(b) EXPORTS.

HORSES to—				£	£	£
Canada . .	1,625	— ¹	— ¹	97,208	— ¹	— ¹
United States .	971	— ¹	— ¹	91,184	— ¹	— ¹
Belgium . .	30,892	30,134	27,882	305,424	304,906	308,122
France . .	2,524	2,233	2,402	164,602	100,315	111,479
Germany . .	1,596	— ¹	— ¹	81,783	— ¹	— ¹
Holland . .	20,820	20,964	18,478	188,203	267,545	182,000
Russia . .	52	— ¹	— ¹	4,181	— ¹	— ¹
Other countries	1,934	7,052	4,332	272,717	455,816	334,245
TOTAL .	60,414	60,383	53,094	1,205,302	1,128,582	935,846

¹ Included in "other countries" in returns available.

TABLE XII.—Quantities and Values of Fruit, Vegetables, and Hops Imported into the United Kingdom in the Years 1906, 1907, and 1908.

	Quantity			Value		
	1906	1907	1908	1906	1907	1908
	Cwt.	Cwt.	Cwt.	£	£	£
Apples	2,808,732	3,526,213	3,376,579	1,753,577	2,231,327	2,079,703
Strawberries. . .	52,251	44,178	33,391	64,777	54,186	45,791
Cherries	191,106	165,412	160,479	245,906	199,489	235,523
Plums	891,113	325,761	402,881	758,720	345,720	428,966
Pears	576,573	500,142	523,029	572,274	478,611	515,914
Grapes	690,371	798,377	673,673	667,969	769,307	728,026
Oranges	5,230,911	6,120,185	5,663,841	2,183,411	2,454,569	2,269,651
Lemons	849,935	882,233	1,045,009	440,406	421,599	471,713
Unenum'd (raw) .	504,345	538,465	436,947	388,598	339,462	291,325
Onions	8,310,534	8,645,048	7,806,108	953,615	1,036,231	993,669
	Cwt.	Cwt.	Cwt.			
Potatoes	3,819,787	8,249,463	7,038,323	1,332,027	2,371,617	1,970,216
Tomatoes	1,124,700	1,135,594	1,160,283	953,475	1,020,795	955,985
Vegetables, raw, unenumerated . .	—	—	—	404,928	365,230	271,209
Hops	232,619	202,324	279,916	852,476	763,881	767,012
	Bushels	Bushels	Bushels			

TABLE XIII.—Horses, Cattle, Sheep, and Pigs Imported into Great Britain from Ireland and Exported from Great Britain to Ireland.

Live Stock	Imports from Ireland				Exports to Ireland			
	1905	1906	1907	1908	1905	1906	1907	1908
HORSES :	No.	No.	No.	No.	No.	No.	No.	No.
Stallions	202	257	197	249	179	338	273	402
Mares	14,192	15,316	15,163	13,049	2,832	2,598	1,997	2,782
Geldings	16,329	18,243	17,890	15,355	2,996	2,162	1,712	2,211
TOTAL	30,723	33,816	33,250	28,653	6,007	5,098	3,982	5,395
CATTLE :								
Fat	224,943	240,566	292,104	258,695	—	—	7	3
Store	455,667	473,425	492,936	528,386	584	429	647	323
Others	6,205	5,897	6,071	9,739	—	—	4	2
Calves	62,316	55,486	50,858	64,850	47	30	60	23
TOTAL	749,131	775,374	841,969	861,670	631	459	718	351
SHEEP :								
Sheep	350,953	293,174	317,039	367,076	34,101	45,837	46,606	26,741
Lambs	349,673	364,239	343,376	354,608	8,722	8,432	16,096	7,529
TOTAL	700,626	657,413	660,415	721,684	42,823	54,269	62,702	34,270
PIGS :								
Fat	362,791	409,510	448,578	371,537	9	3	7	—
Store	1,032	19,920	33,329	15,939	14	68	21	21
TOTAL	363,823	429,430	481,907	387,476	23	71	28	21

TABLE XIV.—*Quantities and Values of Dead Meat Imported into the United Kingdom in the undernoted Years.*

DEAD MEAT		1906		1907		1908	
		Quantities	Values	Quantities	Values	Quantities	Values
		Cwt.	£	Cwt.	£	Cwt.	£
BACON:							
	From United States . .	2,775,919	6,859,061	2,280,644	6,042,579	2,541,945	6,035,498
	" Denmark . .	1,463,880	4,324,055	1,806,934	5,385,275	2,051,148	5,685,526
	" Canada . .	1,190,524	3,135,391	1,192,401	3,171,562	1,004,126	2,518,222
	" Other countries . .	112,299	325,608	85,626	239,785	88,523	241,333
	Total . . .	5,542,622	14,644,115	5,365,605	14,839,201	5,685,742	14,480,579
BEEF:							
Salted.	{ From United States . .	146,163	197,238	115,410	169,700	98,754	191,374
	{ " Other countries . .	15,200	20,709	22,937	31,522	15,988	23,846
	Total . . .	161,363	217,947	138,347	201,222	114,742	215,220
Fresh.	{ From United States . .	2,426,644	5,235,663	2,417,604	5,170,593	1,432,142	3,268,584
	{ " Argentina . .	2,795,913	4,136,819	2,691,554	4,308,273	3,590,307	6,102,926
	{ " Australasia . .	273,328	370,505	517,329	750,328	460,455	711,508
	{ " Other countries . .	27,924	42,620	108,516	167,908	149,085	225,362
	Total . . .	5,523,809	9,785,607	5,735,003	10,397,102	5,631,989	10,308,380
HAMS:							
	From United States . .	1,045,718	2,808,823	832,042	2,385,400	900,795	2,240,238
	" Canada . .	254,495	674,469	296,949	845,021	321,463	835,194
	" Other countries . .	2,539	8,302	3,658	11,762	2,969	9,237
	Total . . .	1,302,752	3,491,594	1,132,649	3,242,183	1,225,227	3,084,669
MEAT (unenumerated):							
Salted or fresh.	{ From Holland . .	222,280	502,027	211,971	479,467	243,988	558,385
	{ " United States . .	189,328	282,128	178,797	255,209	158,061	235,783
	{ " Other countries . .	240,755	361,309	272,186	394,591	369,786	502,743
	Total . . .	652,363	1,145,464	662,954	1,129,267	771,835	1,296,911
Preserved, otherwise than by salting.	{ Beef	296,301	1,103,695	160,388	894,468	270,841	1,154,337
	{ Mutton	48,443	125,954	39,220	85,548	65,106	155,419
	{ Other sorts	142,680	593,022	116,899	554,899	128,721	573,724
	Total . . .	487,424	1,822,671	316,507	1,534,915	464,668	1,883,480
MUTTON:							
Fresh.	{ From Australasia . .	2,365,058	4,566,254	2,863,304	5,641,698	2,373,640	4,647,843
	{ " Argentina . .	1,433,097	2,440,996	1,402,302	2,360,565	1,556,746	2,512,656
	{ " Holland . .	234,926	536,100	221,223	528,411	267,222	641,135
	{ " Other countries . .	49,675	102,585	105,313	181,257	193,651	346,763
	Total . . .	4,082,756	7,645,935	4,592,142	8,711,931	4,391,259	8,148,397
PORK:							
Salted (not bacon or hams).	{ From United States . .	67,775	116,480	55,919	100,724	67,438	115,673
	{ " Other countries . .	138,281	150,320	198,718	227,645	203,190	213,178
	Total . . .	206,056	266,800	254,637	328,369	270,628	328,851
Fresh.	{ From Holland . .	318,296	739,588	429,324	1,004,864	384,004	912,609
	{ " Belgium . .	13,225	32,744	18,340	45,040	23,123	57,602
	{ " United States . .	120,734	268,804	86,612	204,270	135,152	290,170
	{ " Other countries . .	39,866	89,814	33,056	84,068	29,943	71,054
	Total . . .	492,121	1,130,950	567,332	1,338,242	572,222	1,331,435
RABBITS:							
	From Australasia . .	717,981	761,172	613,613	636,662	488,023	507,977
	" Belgium . .	66,811	185,207	62,385	176,718	46,633	130,058
	" Other countries . .	18,764	54,407	16,925	49,355	16,272	47,413
	Total . . .	803,556	1,000,786	692,923	862,735	550,928	685,448
TOTAL OF DEAD MEAT . .		19,254,822	41,151,869	19,458,098	42,685,167	19,679,240	41,763,370

TABLE XV.—Imports of Butter, Margarine, Cheese, Milk, Poultry, and Eggs into the United Kingdom in the undernoted Years, showing the Countries from which sent.

	Quantities			Values		
	1906	1907	1908	1906	1907	1908
BUTTER :	Cwt.	Cwt.	Cwt.	£	£	£
From Russia . . .	606,549	657,649	639,118	2,918,124	3,086,821	3,401,637
„ Sweden . . .	182,803	226,740	238,929	1,036,638	1,269,820	1,430,769
„ Denmark . . .	1,675,761	1,818,811	1,857,103	9,636,862	10,192,587	10,984,722
„ Germany . . .	10,701	7,297	3,195	56,559	34,832	16,751
„ Holland . . .	195,366	168,496	244,356	993,396	856,288	1,299,624
„ France . . .	319,401	281,306	394,612	1,775,601	1,651,137	2,265,494
„ New South Wales	180,655	201,568	138,953	957,702	1,009,266	779,293
„ Queensland . .	77,982	97,685	67,710	404,980	473,104	369,990
„ Victoria . . .	287,190	288,670	193,045	1,568,057	1,470,280	1,097,534
„ New Zealand . .	311,672	313,863	221,395	1,626,997	1,599,226	1,250,211
„ Canada . . .	190,968	34,753	47,877	976,008	175,537	266,867
„ United States . .	157,312	1,063	39,914	748,197	5,450	213,832
„ Other countries .	140,898	118,534	124,988	761,075	628,112	705,813
Total . . .	4,337,258	4,216,435	4,211,195	23,460,196	22,452,460	24,082,537
MARGARINE :						
From Norway . . .	5,291	6,099	4,866	12,504	14,385	11,555
„ Holland . . .	1,058,618	836,658	764,876	2,601,344	2,085,462	1,945,205
„ France . . .	29,422	26,505	27,111	102,500	92,684	93,076
„ Other countries .	8,626	15,806	16,594	17,447	31,114	31,404
Total . . .	1,101,957	885,068	813,447	2,733,795	2,223,645	2,081,240
CHEESE :						
From Holland . . .	229,341	241,553	279,401	545,947	583,582	653,835
„ France . . .	43,244	47,036	48,597	140,702	152,187	153,371
„ Australia . . .	—	3,515	757	—	10,833	2,212
„ New Zealand . .	126,216	192,301	264,995	370,666	586,675	801,131
„ Canada . . .	1,925,835	1,698,847	1,541,502	5,634,288	4,989,399	4,555,751
„ United States . .	233,445	114,300	105,555	656,705	337,302	302,662
„ Other countries .	80,713	74,683	65,279	259,333	245,534	215,241
Total . . .	2,638,794	2,372,235	2,306,086	7,607,641	6,905,512	6,684,203
CONDENSED MILK :	907,983	911,876	921,876	1,563,677	1,599,637	1,607,524
MILK AND CREAM : (other than Condensed)	12,279	11,362	16,021	24,040	22,408	33,439
POULTRY (and game) :						
From Russia . . .	—	—	—	206,260	318,105	377,000
„ Belgium . . .	—	—	—	198,421	183,113	197,522
„ France . . .	—	—	—	204,402	206,879	200,645
„ Other countries .	—	—	—	376,374	349,836	278,132
Total . . .	—	—	—	985,457	1,057,933	1,053,299
EGGS :	Great Hundreds	Great Hundreds	Great Hundreds			
From Russia . . .	7,132,928	7,178,941	7,061,519	2,344,256	2,392,044	2,518,051
„ Denmark . . .	3,823,942	3,800,366	3,916,368	1,701,291	1,774,318	1,824,273
„ Germany . . .	2,644,242	2,821,124	2,370,429	957,905	1,030,190	855,256
„ Belgium . . .	2,444,746	2,133,612	2,121,760	992,103	891,460	884,686
„ France . . .	1,491,219	1,232,107	1,225,338	623,104	541,088	535,249
„ Canada . . .	231,719	115,872	40,354	106,393	53,084	24,786
„ Other countries .	1,105,263	1,285,869	1,464,302	373,070	452,348	540,811
Total . . .	18,874,059	18,567,891	18,210,079	7,098,122	7,134,532	7,183,112

TABLE XVI.—*Quantities and Values of Wool, Wood, Seeds, Manures, &c., Imported into the United Kingdom in the Years 1906, 1907, and 1908.*

	Quantities			Values		
	1906	1907	1908	1906	1907	1908
WOOL: Sheep and Lambs'—	Lb.	Lb.	Lb.	£	£	£
Total Imports.	639,342,939	759,236,745	719,074,887	27,146,133	32,692,967	27,997,328
Re-exported .	269,135,040	312,673,305	325,450,849	11,197,764	13,350,821	15,156,593
Excess of Imports .	370,207,899	446,563,440	393,624,038	15,948,369	19,342,146	12,840,735
WOOD AND						
TIMBER:	Loads	Loads	Loads			
Hewn . . .	3,246,731	3,512,984	3,883,325	6,411,243	6,990,764	6,884,084
Sawn or split, planed or dressed . .	6,692,260	5,985,423	5,488,447	18,534,958	17,146,790	14,515,433
Staves . . .	139,041	171,721	147,028	632,568	736,422	682,105
SEEDS, &c.:	Cwt.	Cwt.	Cwt.			
Clover & grass . .	300,689	338,443	310,826	615,170	683,248	690,320
Cotton . . .	Tons	Tons	Tons			
	624,765	758,152	616,923	3,716,567	4,881,653	4,150,457
Flax or linseed .	Qrs.	Qrs.	Qrs.			
	1,588,100	2,071,534	2,067,200	3,274,988	4,397,247	4,306,094
Rape . . .	118,149	261,960	147,490	234,644	551,157	313,520
Oil-seed Cake .	Tons	Tons	Tons			
	360,198	329,734	332,482	2,362,471	2,134,724	2,118,518
MANURES:						
Bones (burnt or not) . . .	Tons	Tons	Tons			
	42,604	46,115	41,412	194,633	206,598	180,840
Guano . . .	24,906	31,278	34,417	127,719	148,723	158,899
Nitrate of soda .	108,486	113,894	145,724	1,183,082	1,256,658	1,455,000
Phosphate of lime and rock.	442,970	504,529	530,177	678,696	825,619	917,677
MISCELLANEOUS:	Tons	Tons	Tons			
Hay . . .	155,395	97,424	— ¹	519,465	338,426	— ¹
Straw . . .	78,509	58,725	— ¹	169,812	127,199	— ¹
Flax . . .	87,334	103,598	79,653	3,557,101	3,942,607	3,672,298
Hemp . . .	117,336	134,529	112,185	3,712,179	4,239,167	2,965,995
Hides, raw:	Cwt.	Cwt.	Cwt.			
Dry . . .	484,218	406,314	357,375	1,602,944	1,484,570	1,215,000
Wet . . .	533,678	546,939	681,104	1,493,859	1,619,719	1,837,288
Leather . . .	1,291,937	1,068,705	1,175,115	9,642,438	8,909,964	9,479,143
Lard . . .	2,049,367	1,965,131	1,987,491	4,361,399	4,491,539	4,407,410

¹ Figures not yet available.

[Continued from page 365.]

and of 820,700 quarters on the yield of 1906. The area devoted to it had decreased by 130,200 acres, and the average yield per acre had fallen from 33·96 bushels per acre in 1907 to 32·29 in 1908. The decrease was most marked in Wales, where it amounted to 15·17 per cent. of the yield in 1907, the percentage in England being 4·63, and in Scotland 5·03, while that for the whole of Great Britain was 4·86. No doubt the changeable weather in May and June had a detrimental effect on this and the other crops, though the subsequent weather was favourable to them.

The **Barley** crop of 1908 was proportionately much worse than the wheat, the total diminution since the year before being 707,192, or 9·37 per cent. in Great Britain. In England the diminution was 577,306 quarters, or 10·76 per cent.; in Wales it was 24,153 quarters, or 6·92 per cent.; and in Scotland it was only 5,733 quarters, or 0·63 per cent. The total yield of barley in 1908 was 6,839,081 quarters as compared to 7,546,273 in 1907.

In 1908, **Oats** in Great Britain gave a yield of 15,467,616 quarters, being 1,331,400 less than in the previous year, and showing a falling off of 7·92 per cent. in Great Britain, 12·83 per cent. in England, and 8·88 per cent. in Wales, while in Scotland there was an increase of 4·85 per cent. The average yield per acre in Great Britain had fallen from 43·04 bushels in 1907 to 39·80 this last year. **Beans** and **Peas** also, unfortunately, showed a falling off, in the former case of 16·62 per cent., and in the latter of 8·03 per cent. As these two crops are cultivated mostly in England, the loss falls almost entirely on that part of Great Britain.

When we turn to **Potatoes** we have the satisfaction of finding that the total produce in Great Britain amounted to 3,919,800 tons, an increase on the yield of the previous year of no less than 942,300 tons, or 31·65 per cent.; the increase in England was 621,725 tons, or 29·64 per cent.; in Wales, 36,497 tons, or 31·69 per cent.; and in Scotland, 284,091 tons, or 37·16 per cent. This increase is all the more satisfactory, coming as it does after the previous bad season.

Turnips and **Swedes** showed an increase in Great Britain of 1,652,489 tons, the total being 23,738,207 tons. This gives a percentage increase of 7·48 per cent. for the whole, but we must note that in England there was a decrease of 180,000 tons, or 1·23 per cent. in the total yield, while the yield per acre fell from 13·86 to 13·76. In all parts of Great Britain the yield was considerably over the average of the preceding ten years. There was a general increase of 1·28 tons per acre over the previous year, England, however, showing a decrease of 0·10 tons per acre. The crop of **Mangolds** gave a yield

estimated at very nearly 9,000,000 tons, about $\frac{1}{2}$ per cent. better than the previous year. In England, where the vast majority of this crop is grown, the increase was 0·66 per cent.

The acreage of Hops again fell last year by 6,017 acres, or 13·3 per cent, but the produce increased by 96,632 cwt., or no less than 25·8 per cent. on the previous year's produce.

The yield per acre in 1908 was 12·10 cwt., compared with 8·33 cwt. in 1907. The best result was obtained in Mid-Kent, where the yield per acre was more than double that of the previous year, and the rest of Kent, Surrey, and Hants were not very far below the yield in Mid-Kent.

The Hay harvest of the year was for both the kinds of hay recorded above the average of the preceding ten years, both in England and Wales. In Scotland the "Hay from Permanent Grass" was above it, while that "from Clover, Sainfoin, &c.," was below it. In every case, except in that of "Hay from Permanent Grass" in Scotland, the yield per acre was less than in the previous year. In England the yield per acre for "Hay from Clover, Sainfoin, &c.," was 31·93 cwt. per acre compared with 33·31 cwt. in 1907, while the acreage had decreased from 2,738,800 to 2,597,100. This reduced yield was, however, 1·47 cwt. per acre above that of the preceding ten years. The "Hay from Permanent Grass" decreased in England from 27·79 cwt. per acre in 1907 to 25·40, being 0·83 cwt. above the average of the preceding ten years, the alternate moisture and sunshine of the summer having led to great expectations, which were not entirely fulfilled.

THE SOIL.¹

BY A. D. HALL.

MR. HALL'S book on the soil, the second edition of which has recently appeared, came as a boon to every one interested in agriculture—the teacher, the student, and the intelligent farmer who wishes to know something about the soil he cultivates. The first edition has been translated into Italian and French, is the text-book at the "Institut Nationale Agronomique," and at several of the American colleges.

Mr. Hall has not confined himself to the usual elementary description of soil formation and the methods and results of soil analysis, which have formed the text of most writers on agricultural chemistry; he has taken a wide view of his subject.

¹ *The Soil*, A. D. Hall. London: John Murray, May, 1908. 5s. nett. pp. 311 + xiii.

The investigation of the soil has grown apace of recent years. The soil surveys which are in progress in America and on the Continent are tending to correlate the properties of soils with the results of analysis, and to lead to the recognition of definite soil types agreeing in origin, composition, natural flora, and suitability for certain crops.

The point of view of the soil chemist and physicist has also been greatly modified. The soil is no longer regarded as an inert medium which simply acts as a mechanical plant-producing machine, but as the site of continual chemical and physical changes, such, for instance, as the preparation of available plant food salts and the movements of water among the soil particles.

But it is perhaps in soil bacteriology that the greatest advances have taken place; within the last twenty years the chief problems of nitrification have been solved, denitrification and its causes and results have been much studied, the fixation of free nitrogen by the root nodules of the leguminosæ has been worked out, and much attention has been given to the rôle of many individual soil organisms, one of the most interesting of which is that which when fed on carbohydrate takes up and fixes atmospheric nitrogen.

All these matters are dealt with in a revised and expanded chapter in Mr. Hall's new edition, and this chapter is especially commended to those who propose to revolutionise agriculture by soil inoculation, a subject on which so many rash statements have appeared in the public press. Mr. Hall's book has all the freshness and authority of one who writes with the intimate knowledge derived from personal research. It is well illustrated by plates and by graphic tables and curves. We hope Mr. Hall will deal similarly with other branches of agricultural learning.

THE WEATHER DURING THE AGRICULTURAL YEAR, 1907-1908.

A MILD autumn in 1907, with an excess of rain in most southern districts, was followed by a long spell of very changeable weather, lasting, with few important interruptions, beyond the middle of the following spring. The winter was, as a rule, cold, though seldom very severe, and the conditions remained unfavourable for the active growth of vegetation throughout nearly the whole of March and April, the frosts and snowstorms experienced towards the close of the latter month being of unusual intensity for so late a period in the season. In May a decided improvement took place, and throughout the summer the conditions were upon the whole fine and genial, with, however, a somewhat remarkable absence of anything in the way of extreme warmth. A fortnight of very wet weather was experienced in the early part of July, while a spell of broken weather in the latter half of August served in many places to prolong the harvest beyond its ordinary limits. The succeeding autumn proved warm and dry, and allowed of the almost uninterrupted progress of farm operations, so that the agricultural season of 1908-1909 opened under the most favourable auspices.

THE WINTER OF 1907-1908.

The winter season was marked by very changeable weather, in which almost every climatic element succeeded at one time or another in forcing itself into prominent notice. The thermometer was, as a rule, above the average winter level, but the generally open character of the season was occasionally interrupted by brief spells of severe frost and one or two heavy snowstorms. In most districts the sharpest frost occurred at the close of December or the beginning of January, another touch of cold being experienced between January 10 and 13; in February the thermometer scarcely ever fell more than five or six degrees below the freezing point.

December was for the most part mild and open, the warmest weather occurring round the 8th and the 19th. On each of those occasions the thermometer rose above 55° in many places. On the 8th a reading of 59° was reached at Epsom and Eastbourne, while on the 19th a reading of 58° was recorded at Rhyl, Geldeston (near Beccles), Maidenhead, and Jersey. Between 1 in. and 1½ in. of rain fell in south Wales and the south-west of England on the 4th, and similarly large amounts

in Cumberland and central Wales on the 13th, the downpour on the latter occasion being associated with a deep storm system which skirted the north of Scotland and occasioned strong westerly to north-westerly gales over the entire kingdom. Another heavy fall of rain occurred in the north-west of England on the 19th, when Aspatria received as much as $2\frac{1}{2}$ ins. in the space of twenty-four hours. Towards the end of December a wave of cold air began to spread in from the Continent, but the decline in temperature was at first very gradual, and in many places the month was characterised by the absence of any shade reading lower than the freezing point. In London the lowest temperature recorded in the screen was as high as 33° , and was at least 3° higher than in any December of the previous thirty-five years.

With the beginning of January the cold became far more severe, and between the 3rd and the 6th the thermometer sank below 15° in many inland parts of England; the lowest readings reported at the time being one of 10° at Raunds (Northampton), 11° at Stokesay, and 12° at Hereford. On the 5th there were many places in which the thermometer remained at least 5° below the freezing point all day. A mild south-westerly wind was, however, then beginning to spread over our western districts, and in the course of the next twenty-four hours a rapid thaw took place over the entire country, the change in temperature amounting in many districts to at least 30° . On the 7th and 8th a deep cyclonic disturbance passed eastwards across the United Kingdom, and occasioned strong westerly to northerly gales and heavy falls of rain and snow, especially in the east and south-east of England, where the snow on the morning of the 8th lay from 3 to 8 in. deep. After this the weather became more settled, and between the 10th and 13th another sharp frost was experienced, the thermometer falling below 15° in many places, and reaching 10° at Rauceby, in Lincolnshire. The latter half of January was mild, dull, and often very foggy, but at the close of the month it became somewhat colder, with snow on the 28th or 29th in several places.

February included two clearly marked periods of weather, the first half of the month being mostly fair and dry, the second half stormy and wet. During the former period two sharp frosts occurred, one between the 1st and 2nd, and the other about ten days later. On each occasion the sheltered thermometer fell at least 10° below the freezing point in many parts of England, while on the surface of the ground it went 5° or so lower. In the second period the westerly wind often blew hard, and on the 22nd a severe gale from that quarter or from north-west swept over the whole kingdom, and occasioned much structural

damage. Corn and hay stacks were in many cases overturned, and trees uprooted, a whole avenue of firs in the King's estate at Sandringham being almost entirely demolished. At the close of February another gale of less severity occurred, and snow fell pretty generally, in some places to a considerable depth.

For the winter as a whole the *mean temperature* was below the normal in all but the south-western districts; *rainfall* was deficient over central and southern England, but in excess of the average in the west and north; *bright sunshine* was abundant in the south and also in the north, but scanty in the intermediate districts.

THE SPRING OF 1908.

Until the opening of May the weather of the spring was almost continuously cold and inclement. The exceedingly slow progress of vegetation proved, however, little short of an unmixed blessing. In a more advanced season irreparable damage would have been occasioned by the phenomenally cold weather which set in towards the close of April. As it was, the sharp frosts and snowstorms seem to have had little or no effect, and in May the growth of the crops was stimulated to an unusual extent by a long spell of warm weather, accompanied in the earlier part of the month by a humid atmosphere and rather frequent showers.

In March the weather was exceedingly cold and changeable, the only periods of anything like seasonable warmth occurring about the 8th of the month, or between the 22nd and 24th. The sharpest frosts were experienced in the first and third weeks, and were accompanied in most places by falls of snow or sleet. On the earlier occasion the sheltered thermometer fell below 20° in many northern and central districts, and below 15° in a few isolated parts of North Britain. In the third week the coldest weather was experienced over the eastern half of the country, where the thermometer fell to about the same level as at the beginning of the month. Over England the rainfall of the month, though frequent, was seldom heavy, the only material exception occurring on the 5th, when a copious downpour was experienced in some parts of Devon and Cornwall. In Wales and Scotland heavy falls were fairly general on the 24th and 25th.

The cold winds which prevailed so commonly in March continued throughout nearly the whole of April, and in London no temperature as high as 60° was recorded until the 29th of the month—an event without parallel in the meteorological history of the previous thirty-five years. In many other parts of the country, however, a spell of genial warmth occurred about the middle of the month, the thermometer on the 16th and 17th

rising above 65° in a few isolated parts of Great Britain. Sharp frosts were reported very commonly on the 8th and 9th, and between the 13th and 15th, but the worst weather of the whole month occurred between the 19th and 25th, when the country experienced a wintry spell of an altogether unprecedented character for so advanced a period in the season. During this bitterly cold week sharp frosts occurred in nearly all districts, and a slight frost even in the Channel Islands, while heavy falls of snow were reported over a very large portion of Great Britain. In the south of England a snowfall amounting to over a foot in depth is rare even in the winter time. On April 25 this depth was exceeded in many places, as much as 17 inches being measured at Oxford, and 19 inches in some parts of south Berkshire. At the close of the month the rapid melting of the snow, accompanied as it was by heavy rain, produced serious floods in the Thames Valley.

May opened with a burst of unusually warm weather, and although the thermometer failed to remain at so high a level, there were throughout the month few occasions on which it sank much below the normal. Rather sharp night frosts occurred on the 6th, between the 10th and 13th, and between the 20th and 23rd, but it was only at a few northern stations that the thermometer even on the surface of the grass fell more than three or four degrees below the freezing point. In the earlier half of the month the weather was very changeable, with frequent falls of rain and occasional smart thunderstorms. Later on the conditions were finer, and at some places in eastern and central England no rain fell for periods varying between twelve and fourteen days. Summer warmth prevailed in the closing week, the thermometer in the shade rising above 75° in many places, and touching 81° at Carlisle on the 28th, and 80° at Leeds and Isleworth on the 31st.

For the spring as a whole the *mean temperature* was below the average, but in eastern and central England the night readings, taken alone, were somewhat above the normal. *Rainfall* was more frequent than usual and was in excess of the average, to the extent of more than 30 per cent. in many parts of England, and of nearly 40 per cent. in the midland counties. *Bright sunshine* was everywhere deficient, the nearest approach to the normal amount being recorded in the north-western counties.

THE SUMMER OF 1908.

The summer of 1908 included two long spells of fine weather, interspersed with two shorter periods in which the conditions were of an entirely opposite character. The longer spells lasted in the first place for nearly a month, commencing

on June 4 or 5, and afterwards from about the middle of July to the middle of August. One striking feature in connection with the fine weather was the general absence of extreme warmth, the sun's rays being usually tempered by cool breezes from west or north-west.

June opened with a few days of close thundery weather, with heavy falls of rain in many parts of England, and especially in the north midlands. At Cheadle on the 3rd as much as 2·8 ins. were measured, and on the same day a cloud-burst occurred at Skipton (West Yorks.), where a large amount of damage was occasioned by the sudden rising of the river Aire. On the evening of the 1st, during a thunderstorm, a violent squall of wind (a miniature tornado) swept over the western suburbs of London and uprooted many fine trees in Bushey Park; while on the afternoon of the 4th a similar occurrence, accompanied by equally serious effects, was experienced in north Hertfordshire. After this a cold wind from the northward spread over the entire country, and early on the morning of the 6th (Whit Sunday) a sharp ground frost occurred in many northern and central districts. For the remainder of June the weather was mostly fair and dry, broken, however, by heavy rain in the north-west of England on the 12th and 13th, and in some parts of the midland counties on the 16th. Until very nearly the close of the month the air was very cool, with ground frosts in several places between the 14th and 18th, and on the 20th or 21st. After the 27th, and up to about July 3 or 4, the weather became much warmer, the highest temperature of the whole season being recorded on July 2 or 3, when the thermometer in the shade rose to 85° and upwards in many districts. At the close of June and the beginning of July a remarkable prolongation of twilight was observed over the whole country, and on two or three successive nights the midnight sky, even in the south, was sufficiently luminous to enable one to read print with the greatest ease.

After about July 4, and for nearly a fortnight, the weather was in an extremely disturbed state, with frequent thunderstorms and heavy falls of rain in nearly all districts. The worst rainstorms occurred in south Wales on the 9th and 10th, in the south and east of England on the 12th and 13th, and in a number of isolated places, chiefly in the west, on the 16th and 17th. At Herne Bay, on the morning of the 13th, nearly $2\frac{3}{4}$ ins. of rain were collected in the space of three and a half hours. On the 16th and 17th a brisk northerly wind set in, and shortly after this a decided improvement in the weather was experienced, many places in the south of England reporting no further rain until after the

middle of August. Temperature seldom rose to any very high level, but in the closing week of July shade readings exceeding 80° were recorded in some parts of our midland and southern counties, while in the opening week of August the warmth was even more pronounced, the thermometer at Maidenhead rising on the 3rd to a maximum of 88°. On the night of August 11-12 a sharp ground frost was experienced locally in the north, and on the night of the 16-17th in the same districts and in some parts of the midland counties.

After the 19th the weather again broke up completely, and for the remainder of the summer the conditions were cool and exceedingly changeable, with occasional heavy falls of rain in most districts. The principal downpours occurred in Ireland and the west of England on the 20th, in many isolated parts of the country on the 22nd and again between the 24th and 26th, and in the south of England on the 27th. At the close of the month the period of disturbed weather culminated in a gale of considerable severity in all the more western and southern parts of the kingdom, with further heavy falls of rain in some parts of Wales and the west of England.

Owing to the general absence of heat, even in the finer portions of the season, the *mean temperature* of the summer was slightly below the average, though much higher than in 1907. *Rainfall* was a little in excess of the normal in the south-east and also in the north-west of England, but deficient elsewhere. In our north-eastern counties little more than two-thirds of the average quantity was registered, and in the Scilly and Channel Islands less than two-thirds. *Bright sunshine* was more abundant than usual in all but the north-eastern districts; in the south-east of England the mean daily allowance for the whole season was nearly an hour in excess of the average.

THE AUTUMN OF 1908.

The autumn was characterised by an almost uninterrupted run of very mild and for the most part very dry weather. The only periods of cold occurred in the fourth week of October and the second week of November, the thermometer at nearly all other times being well above its average level. At the close of September and the beginning of October the shade readings were in many places the highest on record for so advanced a period in the season, and at the end of October the thermometer again rose to an exceptional level for the time of year.

At the beginning of September an important storm system was moving eastward across the United Kingdom, and a stiff

**Rainfall, Temperature, and Bright Sunshine experienced over
England and Wales during the whole of 1908, with Average
and Extreme Values for Previous Years.**

Districts	RAINFALL							
	TOTAL FALL				NO. OF DAYS WITH RAIN			
	For 42 years, 1866-1907				For 27 years, 1881-1907			
	In 1908	Aver- age	Extremes		In 1908	Aver- age	Extremes	
			Driest	Wettest			Driest	Wettest
North-eastern	In. 20·5	In. 25·6	In. 19·9 (1884)	In. 37·2 (1872)	187	186	182 (1884)	208 (1894)
Eastern	21·7	24·8	19·1 (1874 and 1887)	33·1 (1872)	184	179	156 (1898)	205 (1894)
Midland	24·5	27·6	19·2 (1887)	39·8 (1872)	179	179	148 (1887)	210 (1882)
Southern	24·6	28·5	21·5 (1887)	41·7 (1872)	173	173	137 (1899)	197 (1882 and 1903)
North-western with North Wales	36·9	37·8	24·9 (1887)	59·2 (1872)	212	199	163 (1887)	226 (1903)
South-western with South Wales	32·9	41·9	28·3 (1887)	68·6 (1872)	197	199	159 (1887)	235 (1882)
Channel Islands ¹	25·2	32·5	26·2 (1887)	39·5 (1882)	193	212	169 (1899)	251 (1886)

Districts	MEAN TEMPERATURE				HOURS OF BRIGHT SUNSHINE			
	For 42 years, 1866-1907				For 27 years, 1881-1907			
	In 1908	Aver- age	Extremes		In 1908	Aver- age	Extremes	
			Coldest	Warmest			Cloudiest	Sunniest
	°	°	°	°				
North-eastern	47·8	47·5	44·8 (1879)	49·0 (1898)	1408	1327	1006 (1885)	1601 (1906)
Eastern	48·6	48·5	45·6 (1879)	49·8 (1868)	1585	1586	1267 (1888)	1864 (1899)
Midland	48·1	48·4	45·6 (1879)	51·1 (1868)	1386	1407	1173 (1888)	1715 (1893)
Southern	49·4	49·6	46·7 (1879)	51·4 (1898)	1742	1606	1245 (1888)	1983 (1899)
North-western with North Wales	48·3	48·5	45·7 (1879)	50·3 (1868)	1498	1389	1198 (1888)	1683 (1901)
South-western with South Wales	49·7	50·1	48·1 (1888)	52·8 (1868)	1616	1644	1459 (1888)	1964 (1893)
Channel Islands ¹	52·4	52·2	50·5 (1885)	54·1 (1899)	1907	1896	1710 (1888)	2300 (1893)

NOTE.—The above Table is compiled from information given in the Weekly Weather Report of the Meteorological Office.

¹ For the Channel Islands the "Averages" and "Extremes" of Rainfall and Mean Temperature are for the twenty-seven years, 1881-1907.

The Rainfall of 1908 and of the previous Ten Years, with the Average Annual Fall for a long period, as observed at thirty-eight stations situated in various parts of the United Kingdom.

Stations	1908		Rainfall of Previous Years										Average rain- fall
	Total rain- fall	Dif- fer- ence from ave- rage	1907	1906	1905	1904	1903	1902	1901	1900	1899	1898	
ENGLAND AND WALES:	In.	Per cent.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.
Durham	19.4	-29	24.8	23.8	19.2	19.0	30.8	18.5	22.9	28.8	24.5	20.8	27.2
York	21.8	-14	25.6	22.8	20.7	20.8	30.3	18.7	20.5	25.8	22.4	23.7	25.3
Hillington	25.5	-7	25.7	31.6	22.7	25.7	35.6	26.2	24.4	32.6	24.7	22.1	27.5
Yarmouth	22.5	-11	21.9	28.0	22.6	21.0	25.1	21.4	21.2	24.7	22.4	20.0	25.3
Cambridge	17.6	-22	21.2	22.4	19.0	17.6	30.5	15.8	16.7	19.7	19.3	17.9	22.7
Rothamsted	23.4	-16	25.3	26.8	24.8	23.2	36.3	19.6	21.1	27.1	25.1	18.7	27.9
Nottingham	21.3	-14	23.5	21.8	18.6	20.0	32.2	21.5	20.4	28.5	22.6	19.5	24.8
Cheadle	33.3	+ 2	31.9	34.3	26.7	26.3	39.2	26.4	27.7	37.5	30.9	27.8	32.8
Hereford	23.9	-11	29.7	23.6	24.0	25.0	37.8	24.3	25.2	32.8	26.7	22.4	27.0
Cirencester	24.5	-20	28.9	26.2	25.1	28.8	41.1	25.1	26.1	31.0	26.8	22.1	30.7
Oxford	23.9	- 4	26.9	24.0	21.0	22.7	35.9	16.7	22.3	23.6	21.0	19.1	25.0
London	21.3	-13	19.5	22.2	23.0	20.2	38.0	20.4	21.5	22.2	22.0	17.8	24.4
Hastings	22.0	-24	23.3	28.7	26.9	24.6	32.3	23.0	19.4	29.8	25.8	23.0	29.1
Southampton	27.8	-10	30.8	33.1	26.2	31.0	43.2	27.4	28.3	31.6	27.6	26.6	30.9
Stonyhurst	48.3	+ 3	50.0	49.7	38.8	39.6	58.9	36.8	39.0	48.3	47.5	47.9	48.8
Manchester	37.7	+ 2	40.4	42.2	33.3	32.0	45.2	26.5	33.3	42.8	33.5	33.2	37.0
Liverpool	28.9	0	26.6	28.1	24.0	25.1	34.4	25.6	25.1	31.9	27.6	25.6	28.8
Llandudno	30.8	0	26.3	31.6	26.1	28.0	38.5	25.0	28.7	32.8	32.4	31.3	30.8
Pembroke	38.5	+10	37.2	42.5	28.2	31.8	45.8	30.9	33.0	40.6	35.0	35.5	35.1
Clifton	26.6	-23	34.3	30.1	25.0	30.9	42.8	26.5	26.6	37.7	35.5	30.9	34.6
Cullompton	27.5	-23	33.4	33.9	28.1	34.9	42.7	30.8	31.1	35.5	37.0	29.9	35.7
Plymouth	31.0	-14	36.3	33.4	30.5	41.4	45.8	30.9	33.0	40.3	33.1	28.2	35.9
Silly (St. Mary's)	24.7	-26	29.3	29.8	27.5	34.4	39.9	25.3	32.6	34.1	31.9	27.1	33.6
Jersey (St. Aubin's)	25.2	-26	28.6	29.2	30.3	37.3	38.2	30.4	29.6	34.6	26.3	30.0	34.2
Mean for the whole of England and Wales	26.6	-14	29.9	29.9	25.6	28.0	37.5	26.7	27.4	32.3	28.6	26.2	31.0
SCOTLAND:													
Stornoway	52.6	+ 8	43.8	42.2	50.7	55.7	62.1	46.3	42.8	62.5	59.9	71.6	48.6
Wick	32.0	+ 9	29.6	33.2	32.3	25.3	35.9	26.4	32.1	33.1	29.7	27.4	29.3
Aberdeen	28.0	- 9	28.7	31.5	28.5	23.7	36.3	27.3	28.0	34.0	30.3	27.6	30.7
Balmoral ¹	26.2	-27	31.8	39.1	35.6	24.9	44.1	31.8	31.4	40.5	35.6	36.5	36.0
Leith	22.1	- 7	30.7	30.2	19.2	23.4	30.9	16.4	22.5	31.2	24.8	19.9	23.8
Marchmont	30.7	-11	33.3	38.9	27.4	26.1	38.6	24.4	27.2	43.8	32.6	28.3	34.4
Fort Augustus	43.9	- 2	42.0	51.6	43.6	44.4	66.0	35.6	36.9	50.5	42.3	54.3	44.6
Glasgow	35.8	- 7	42.6	40.1	30.7	33.7	53.3	29.1	32.9	47.0	43.5	37.4	38.7
Mean for the whole of Scotland	43.1	+ 3	44.5	46.3	41.4	42.1	57.1	43.0	40.8	52.2	46.1	47.4	41.8
IRELAND:													
Belfast	38.7	+15	38.1	36.2	31.8	31.8	42.3	35.8	32.1	40.6	34.9	30.3	33.6
Markree Castle	47.3	+13	45.2	44.6	39.0	44.9	54.1	38.4	44.9	45.3	43.7	40.4	42.0
Armagh	33.1	+ 4	31.6	30.1	29.9	30.9	36.3	31.7	32.1	36.4	32.5	31.8	31.9
Dublin	23.8	-15	27.0	22.8	25.3	22.2	31.6	29.4	26.1	34.3	27.7	27.1	28.0
Parsonstown	33.4	+ 1	33.9	32.6	25.7	32.9	40.8	28.2	31.1	38.5	33.1	34.2	33.0
Kilkenny	33.5	+ 1	32.4	28.7	25.0	31.5	42.0	33.1	30.3	39.2	30.9	29.1	33.3
Mean for the whole of Ireland	39.2	- 1	39.7	36.7	34.6	38.9	47.9	37.2	37.7	44.9	40.6	38.6	39.5

¹ The Average Fall is in nearly all cases deduced from observations extending over the thirty-five years 1871-1905.

² The Mean Rainfall for each country is based upon observations made at a large number of stations in addition to those given above.

³ The figures for the years prior to 1906 are for Braemar, which ceased reporting after 1905

[Continued from page 389.]

gale from the westward was blowing over a considerable portion of England and Ireland. As the disturbance passed off the wind shifted to the northward, and the weather became temporarily very cool, a sharp night frost being experienced in some of the more northern and central districts. Later on the wind got back to south-west, and the thermometer rose steadily, the shade readings on the 7th and 8th being above 70° in many parts of England, and a trifle above 75° in some parts of our eastern counties. The slow passage of another barometrical depression across the country was accompanied at this time by an exceedingly heavy fall of rain in the northern parts of Ireland and Scotland, and in the rear of the disturbance a cool north-westerly wind sprang up, with showers of snow or sleet between the 9th and 11th at some few places in northern and central England. At Canterbury, on the afternoon of the 11th, a severe thunderstorm was accompanied by an exceedingly heavy fall of rain and hail, and at one station in the city more than 3 ins. were collected in the space of about an hour. On the nights of the 11th and 12th ground frosts were again experienced over a large portion of the United Kingdom, but in the latter half of the month the weather, although rather changeable, was uniformly warm, the thermometer rising between the 17th and 20th to 75° and upwards in the east and south-east of England, and to 79° at Whitby and Canterbury. Quite at the close of the month a more remarkable spell of heat set in, and continued throughout the early days of October, the thermometer rising between September 30 and October 3 to 75° and upwards in Scotland, and to 80° or a little above it in many parts of England and Wales. At Maidenhead a reading of 82° was observed on September 30 and October 1, and at Whitby the thermometer on the latter day reached 84°.

The excessive warmth was followed on October 4 and 5 by a change to cooler weather, but until well after the middle of that month the thermometer was almost always above the normal. After the 20th, however, a cool wind from east and north-east set in, and for about a week the thermometer was below the normal, with sharp night frosts between the 21st and 24th. On the night of the 24th the sheltered thermometer in some parts of Great Britain fell at least six or seven degrees below the freezing point, while at Llangammarch Wells the thermometer on the grass went as many as twenty degrees below it. In some of the more southern parts of England and Wales considerable falls of rain were experienced between the 15th and 21st, and on the morning of the 21st, during a severe thunderstorm, 4 ins. were collected at Weymouth and 6½ ins. on Portland Breakwater. Towards the end of October the wind veered round to south and the thermometer again rose to

an unusually high level, readings of 65° and upwards being recorded in many parts of England and Wales. For so advanced a period in the season the temperatures recorded at about this time were nearly as remarkable as those observed at the beginning of the month.

The mild weather continued through the opening days of November, but on the 4th the wind backed into the eastward, and after the 6th, when the polar current increased in strength, the thermometer fell very decidedly. On the night either of the 8th or 9th a sharp frost occurred in many places, the thermometer on the grass falling to a minimum of 7° at Llangam-march Wells, 9° at Greenwich, and 13° at Birmingham. Up to the 10th the weather was generally very dry, but after that date, when a south-westerly breeze set in, it became mild and showery, and on the morning of the 13th a thunderstorm passed eastward along the south of England. Strong westerly winds prevailed between the 16th and 20th, and a heavy north-westerly gale on the 21st and 22nd, with considerable quantities of rain in the west and north, the amount on the 21st being as large as 1·7 in. at Darwen, and 1·6 in. at Stonyhurst, near Clitheroe. Mild unsettled weather continued from this time onward to the 28th, but at the close of the month the conditions became much finer, and on the two last nights a sharp frost was experienced in many northern and central districts.

For the autumn as a whole the *mean temperature* was well above the average, and rainfall very deficient. In the east and north-east of England and the Channel Islands the total *rainfall* amounted to about two-thirds of the average, and in the south-eastern counties to less than two-thirds. In the midlands the duration of *bright sunshine* agreed almost precisely with the normal, but in all other parts of England it was in excess of the average. In the second week of November the weather in the east and south-east of England was more sunny than at any similar period in the season since a precise record commenced in 1881.

FREDERICK J. BRODIE.

12 Patten Road,
Wandsworth Common.

JOHN THORNTON.

THE hand of death has of late fallen heavily on the Society's Members, and no loss will be felt more keenly by the Agricultural world—Shorthorn breeders in particular—than that caused by the death of Mr. John Thornton, at Algiers, on the 28th November, 1908, while on a cruise in the Mediterranean. Born in 1840, he began in 1857 as an assistant to the late Henry Strafford, who was at that time the principal auctioneer of shorthorns, and the proprietor of Coates's Herd Book. Mr. Thornton commenced business on his own account in 1868, and from that time he conducted sales in all parts of the United Kingdom. He figured prominently in the formation of the Shorthorn Society, and was instrumental in establishing the English Jersey Herd Book. As a mark of the esteem in which he was held, both at home and abroad, a public testimonial was presented to him in the year 1905, the subscribers to which numbered over 900. The testimonial took the form of his portrait, painted by Mr. A. S. Cope, A.R.A. Mr. Thornton joined the Society in 1869, and was elected in 1905 as one of the Members of the Council for the London division. He officiated as auctioneer of cattle in the "Royal" Showyard each year since the Park Royal Show of 1903, when the sales were commenced.

GEORGE HENRY SANDAY.

ANOTHER old supporter of the Society, and one who for many years took an active part in the administration of the Annual Shows was Mr. George Henry Sanday, who died in December last. His association with the Society commenced in 1868 as a Member, and in 1874 he was elected to the Council, becoming a Governor and Vice-President in 1902. Mr. Sanday did duty as a Steward at the Kilburn Show of 1879, on which occasion he was connected with the Implement section, and in the year 1883 he again acted as a Steward (of Butter and Cheese). From that year until 1905, with only one break—in 1896—he acted as a Steward of the Showyard, the departments with which he was at various times connected including Finance, Stock, Implements and Forage. He was a regular attendant at the Council meetings, and served on the Finance, Veterinary, Implement, Showyard Works, and Stock Prizes Committees, acting as Chairman of the latter from 1890 until 1905, when, owing to ill-health, he was compelled to resign his seat upon the Council. No one worked harder to make the Park Royal venture a success, and in the opinion of some of his old colleagues on the Council, these efforts accelerated the breakdown of his health, and hastened his end.

Royal Agricultural Society of England.

(Established May 9, 1838, as the ENGLISH AGRICULTURAL SOCIETY, and Incorporated by Royal Charter on March 26, 1840.)

Patron.

HIS MOST GRACIOUS MAJESTY THE KING.

President for 1909.

The EARL OF JERSEY, G.C.B., G.C.M.G.

Trustees.

Year when
elected on
Council

1895	H.R.H. THE PRINCE OF WALES, K.G., <i>Marlborough House, S.W.</i>
1895	BEDFORD, Duke of, K.G., <i>Woburn Abbey, Bedfordshire.</i>
1882	CAWDOR, Earl, <i>Stackpole Court, Pembrokeshire.</i>
1893	CORNWALLIS, F. S. W., <i>Linton Park, Maidstone, Kent.</i>
1885	COVENTRY, Earl of, <i>Croome Court, Severn Stoke, Worcestershire.</i>
1898	DEVONSHIRE, Duke of, <i>Chatsworth, Chesterfield.</i>
1871	EGERTON OF TATTON, Earl, <i>Tatton Park, Knutsford, Cheshire.</i>
1881	GILBEY, Sir WALTER, Bart., <i>Elsenham Hall, Elsenham, Essex.</i>
1883	JERSEY, Earl of, G.C.B., G.C.M.G., <i>Middleton Park, Bicester, Oxon.</i>
1899	MIDDLETON, Lord, <i>Birdsall House, York.</i>
1880	MORETON, Lord, <i>Sarsden House, Chipping Norton, Oxon.</i>
1881	THOROLD, Sir JOHN H., Bart., <i>Syston Park, Grantham, Lincolnshire.</i>

Vice-Presidents.

1889	H.R.H. PRINCE CHRISTIAN, K.G., <i>Cumberland Lodge, Windsor.</i>
1871	BOWEN-JONES, J., <i>St. Mary's Court, Shrewsbury.</i>
1887	CRUTCHLEY, PERCY, <i>Sunninghill Lodge, Ascot, Berkshire.</i>
1908	DERBY, Earl of, G.C.V.O., C.B., <i>Knowsley, Prescot, Lancashire.</i>
1891	DUGDALE, J. MARSHALL, <i>Llwyn, Llanfyllin, S.O., Mont.</i>
1903	FELLOWES, Rt. Hon. AILWYN E., <i>Honingham, Norwich.</i>
1876	FEVERSHAM, Earl of, <i>Duncombe Park, Helmsley, Yorkshire.</i>
1904	GREENALL, Sir GILBERT, Bart., <i>Walton Hall, Warrington, Cheshire.</i>
1899	NORTHBROOK, Earl of, <i>Stratton, Micheldever, Hampshire.</i>
1908	NORTHUMBERLAND, Duke of, K.G., <i>Alnwick Castle, Northumberland.</i>
1881	PARKER, Hon. CECIL T., <i>Eccleston, Chester.</i>
1907	YARBOROUGH Earl of, <i>Brocklesby Park, Lincolnshire.</i>

List of Council of the Society.

Ordinary Members of the Council.

Year when
first elected
on Council

- 1905 ADAMS, GEORGE, *Royal Prize Farm, Faringdon (Berkshire).*
 1905 ADEANE, CHAS. R. W., *Babraham Hall, Cambridge (Cambridgeshire).*
 1905 AVELING, THOMAS L., *Boley Hill House, Rochester (Kent).*
 1905 BANKART, S. N., *Hallaton Hall, Uppingham (Rutland).*
 1906 BROCKLEHURST, HENRY DENT, *Sudeley Castle, Winchcombe (Gloucestershire).*
 1906 BUTTAR, THOMAS A., *Corston, Coupar Angus (Scotland).*
 1905 CARDEN, RICHARD G., *Fishmoynne, Borrisoleigh, Tipperary (Ireland).*
 1905 CARR, RICHARDSON, *Estate Office, Tring Park (Hertfordshire).*
 1905 COOPER, SIR RICHARD P., Bart., *Shenstone Court, Lichfield (Staffs).*
 1909 CROSS, HON. JOHN E., *High Legh, Knutsford (Cheshire).*
 1906 DE TRAFFORD, SIR H. F., Bart., *Hill Crest, Market Harboro' (Leicestershire).*
 1906 DUDDING, HENRY, *Riby Grove, Stallingborough (Lincolnshire).*
 1905 EADIE, JOHN T. C., *The Rock, Newton Solney, Burton-on-Trent (Derbyshire).*
 1905 FALCONER, JAMES, *Northbrook Farm, Micheldever Station (Hampshire).*
 1905 FORREST, ROBERT, *St. Fagan's, Cardiff (Glamorganshire).*
 1907 FRANK, HOWARD, *9 Conduit Street, W. (London).*
 1906 GLOVER, JAMES W., *Beechwood, Warwick (Warwickshire).*
 1900 GREAVES, R. M., *Wern, Portmadoc (North Wales).*
 1907 HAMLYN, ERNEST A., *Oakdale, Ockley (Surrey).*
 1905 HARRIS, JOSEPH, *Brackenbrough Tower, Carlisle (Cumberland).*
 1903 HARRISON, WILLIAM, *Hall House, Leigh (Lancashire).*
 1905 HINE, JOHN HENRY, *Pomphlett Farm, Plymstock, Plymouth (Devon).*
 1906 HIPPISELEY, R. J. BAYNTUN, *Ston Easton Park, near Bath (Somerset).*
 1905 HISCOCK, ARTHUR, *Manor Farm, Motcombe, Shaftesbury (Dorset).*
 1903 HOBBS, ROBERT W., *Kelmseott, Lechlade (Oxfordshire).*
 1908 HOSKEN, W. J., *Pulsack, Hayle (Cornwall).*
 1900 HOWARD, JOHN HOWARD, *Clapham Park, near Bedford (Bedfordshire).*
 1905 INGRAM, WALTER F., *2 St. Andrew's Place, Lewes (Sussex).*
 1905 KNIGHTLEY, SIR CHARLES V., Bart., *Fawsley, Darenty (Northants).*
 1904 MATHEWS, ERNEST, *Little Shardeloes, Amersham (Buckinghamshire).*
 1905 MAY, WILLIAM A., *3 Wellington Street, Strand, W.C. (London).*
 1904 MIDDLETON, CHRISTOPHER, *Vaue Terrace, Darlington (Durham).*
 1884 MILLER, T. HORROCKS, *Singleton Park, Poulton-le-Fylde (Lancashire).*
 1905 MINTON, THOMAS S., *Montford, Shrewsbury (Shropshire).*
 1907 NOCTON, WILLIAM, *Langham Hall, Colehester (Essex).*
 1905 PILKINGTON, CLAUDE M. S., *Wollaton, Nottingham (Nottinghamshire).*
 1906 PLUMPTRE, H. FITZWALTER, *Goodnestone, Dorer (Kent).*
 1909 PROUT, W. A., *Sawbridgeworth, Herts. (London).*
 1905 REA, GEORGE GREY, *Middleton, Wooler (Northumberland).*
 1897 REYNARD, FREDERICK, *Sunderlandwick, Driffield (Yorks., E. Riding).*
 1905 RICHMOND AND GORDON, Duke of, K.G., *Goodwood, Chichester (Sussex).*
 1908 RIDLEY, Viscount, *Blagdon, Cramlington (Northumberland).*
 1905 ROGERS, C. COLTMAN, *Stanage Park, Brampton Bryan (South Wales).*
 1905 ROWELL, JOHN, *Bury, Huntingdon (Huntingdonshire).*
 1901 SCOBY, WILLIAM, *Hobgrovend House, Sinnington (Yorks., N. Riding).*
 1907 SMITH, FRED, *Woodbridge (Suffolk).*
 1905 SMITH, HENRY HERBERT, *Bowood, Calne (Wiltshire).*
 1891 STANYFORTH, E. WILFRID, *Kirk Hammerton Hall, York (Yorkshire, West Riding).*
 1905 TALLENT, HERBERT, *Westacre, Swaffham (Norfolk).*
 1905 TAYLOR, GEORGE, *Cranford (Middlesex).*
 1907 TINDALL, C. W., *Wainfleet, S.O. (Lincolnshire).*
 1904 TURNER, ARTHUR P., *The Leen, Pembroke (Herefordshire).*
 1889 WHEELER, E. VINCENT V., *Newnham Court, Tenbury (Worcestershire).*
 1889 WILSON, CHRISTOPHER W., *Rigmaden Park, Kirkby Lonsdale (Westmorland).*
 1908 WRIGLEY, LOUIS C., *Trellick Grange, Chepstow (Monmouthshire).*

STANDING COMMITTEES.

* * Under By-law 39, the PRESIDENT is a Member *ex officio* of all Committees, and the TRUSTEES and VICE-PRESIDENTS are Members *ex officio* of all Standing Committees except the Committee of Selection.

The Honorary Director is a Member ex officio of all Committees.

Finance and House Committee.

ADEANE, C. R. W. (<i>Chairman</i>).	CARR, RICHARDSON.
DEVONSHIRE, Duke of.	CORNWALLIS, F. S. W.
NORTHBROOK, Earl of.	CRUTCHLEY, PERCY.
COOPER, Sir R. P., Bart.	HARRISON, W.
GREENALL, Sir G., Bart.	MATHEWS, ERNEST.
THOROLD, Sir J. H., Bart.	WHEELER, E. V. V.
AVELING, T. L.	

Journal and Education Committee.

THOROLD, Sir J. H., Bart. (<i>Chairman</i>).	BOWEN-JONES, J.	MAY, W. A.
JERSEY, Earl of, G.C.B.	BROCKLEHURST, H. D.	PLUMPTRE, H. F.
RIDLEY, Viscount.	CORNWALLIS, F. S. W.	SMITH, H. H.
MORETON, Lord.	DUGDALE, J. MARSHALL.	WHEELER, E. V. V.
ADEANE, C. R. W.	HIPPISLEY, R. J. B.	WRIGLEY, L. C.
	MATHEWS, ERNEST.	

Chemical and Woburn Committee.

BOWEN-JONES, J. (<i>Chairman</i>).	HOSKEN, W. J.	PILKINGTON, C. M. S.
KNIGHTLEY, Sir C. V., Bart.	HOWARD, JOHN HOWARD.	PROUT, W. A.
BROCKLEHURST, H. D.	INGRAM, W. F.	REYNARD, F.
FALCONER, J.	MAY, W. A.	SCOBY, W.
GREAVES, R. M.	MIDDLETON, C.	TINDALL, C. W.
	MINTON, T. S.	TURNER, A. P.

Botanical and Zoological Committee.

ROGERS, C. C. (<i>Chairman</i>).	BOWEN-JONES, J.	PLUMPTRE, H. F.
MORETON, Lord.	CORNWALLIS, F. S. W.	PROUT, W. A.
THOROLD, Sir J. H., Bart.	HAMLYN, E. A.	TALLENT, H.
	MIDDLETON, C.	WHEELER, E. V. V.

Veterinary Committee.

NORTHBROOK, Earl of. (<i>Chairman</i>).	CRUTCHLEY, PERCY.	*PRESIDENT OF ROYAL COLLEGE OF VET. SURGEONS.
DEVONSHIRE, Duke of.	EADIE, J. T. C.	ROWELL, JOHN.
MORETON, Lord.	HARRIS, JOSEPH.	SMITH, FRED.
FELLOWES, Rt. Hon. A. E.	HISCOCK, A.	SMITH, H. H.
PARKER, Hon. C. T.	*MCFADYEAN, Prof. Sir J.	STANYFORTH, E. W.
GREENALL, Sir G., Bart.	*MASTER OF FARRIERS' COMPANY.	SWITHINBANK, H.
THOROLD, Sir J. H., Bart.	MATHEWS, ERNEST.	WILSON, C. W.
BANKART, S. N.	MILLER, T. H.	

* *Professional Members of Veterinary Committee not Members of Council.*

Stock Prizes Committee.

REYNARD, F. (<i>Chairman</i>).	CARDEN, R. G.	MINTON, T. S.
COVENTRY, Earl of.	CARR, RICHARDSON.	REA, G. G.
NORTHBROOK, Earl of.	CRUTCHLEY, PERCY.	ROGERS, C. C.
RIDLEY, Viscount.	DUDDING, H.	ROWELL, JOHN.
MIDDLETON, Lord.	EADIE, J. T. C.	SMITH, FRED.
COOPER, Sir R. P., Bart.	FRANK, HOWARD.	TAYLOR, GEORGE.
DE TRAFFORD, Sir H. F., Bt.	GREAVES, R. M.	TINDALL, C. W.
GREENALL, Sir G., Bart.	HINE, J. H.	TURNER, A. P.
ADAMS, GEORGE.	HOBBS, ROBERT W.	WILSON, C. W.
BOWEN-JONES, J.	HOSKEN, W. J.	WRIGLEY, L. C.
BUTTAR, T. A.	MATHEWS, ERNEST.	The Stewards of Live Stock.
	MILLER, T. H.	

*Standing Committees.***Implement Committee.**

GREAVES, R. M. (Chairman).	GLOVER, J. W.	PROUT, W. A.
PARKER, Hon. C. T.	HARRISON, W.	STANYFORTH, E. W.
AVELING, T. L.	HIPPISLEY, R. J. B.	TALLENT, H.
BOWEN-JONES, J.	HOWARD, J. H.	WHEELER, E. V. V.
CRUTCHLEY, PERCY.	MIDDLETON, C.	The Stewards of
FALCONER, J.	PILKINGTON, C. M. S.	Implements.

Showyard Works Committee.

GREENALL, Sir G., Bart. (Chairman).	CARR, RICHARDSON.	REA, G. G.
CROSS, Hon. J. E.	CRUTCHLEY, PERCY.	REYNARD, F.
COOPER, Sir R. P., Bart.	HARRISON, W.	STANYFORTH, E. W.
AVELING, T. L.	HOWARD, J. H.	TAYLOR, GEORGE.
	PILKINGTON, C. M. S.	

Committee of Selection.

THOROLD, Sir J. H., Bart. (Chairman).	DEVONSHIRE, Duke of.	BROCKLEHURST, H. D.
THE PRESIDENT.	PARKER, Hon. C. T.	REA, G. G.
	COOPER, Sir R. P., Bart.	ROWELL, JOHN.

And the Chairman of each of the Standing Committees.

Dairy and Produce Committee.

MATHEWS, ERNEST (Chairman).	CRUTCHLEY, PERCY.	PLUMPTRE, H. F.
PARKER, Hon. C. T.	DUGDALE, J. MARSHALL.	SMITH, FRED.
THOROLD, Sir J. H., Bart.	GREAVES, R. M.	TAYLOR, GEORGE.
CARR, RICHARDSON.	HINE, J. H.	WHEELER, E. V. V.
	HISCOCK, A.	

General Gloucester Committee.

THE WHOLE COUNCIL, with the following representatives of the
LOCAL COMMITTEE:—

BRUTON, JAMES (Mayor of Gloucester).	AITKEN, S.	COLCHESTER-WEMYSS, M.W.
AGG-GARDNER, J. T.	BAKER, M. G. LLOYD.	CURTIS-HAYWARD, Col. J. F.
(Mayor of Cheltenham).	BRUTON, H. W.	LISTER, R. A.
	CLARK, C. G.	ANDERSON, R. (Local Sec.)

Honorary Director.

SIR GILBERT GREENALL, BART.

Secretary.

THOMAS MCROW, 16 Bedford Square, W.C.

Consulting Chemist.—Dr. J. AUGUSTUS VOELCKER, M.A., F.I.C., 22 Tudor Street, London, E.C.

Consulting Botanist.—W. CARRUTHERS, F.R.S., 44 Central Hill, Norwood, S.E.

Consulting Veterinary Surgeon.—Prof. Sir JOHN MCFADYEAN, Royal Veterinary College, Camden Town, N.W.

Zoologist.—CECIL WARBURTON, M.A., Zoological Laboratory, Cambridge.

Consulting Engineer.—F. S. COURTNEY, 25 Victoria Street, Westminster, S.W.

Surveyor.—J. R. NAYLOR, F.R.I.B.A., Smith's Bank Chambers, Derby.

Consulting Surveyor.—GEORGE HUNT, Evesham, Worcestershire.

Publisher.—JOHN MURRAY, 50A Albemarle Street, W.

Solicitors.—GARRARD, WOLFE, GAZE & CLARKE, 13 Suffolk Street, Pall Mall East, S.W.

Bankers.—THE LONDON AND WESTMINSTER BANK, St. James's Square Branch.

DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE
SOCIETY, AND OF ORDINARY MEMBERS OF THE COUNCIL.

(Elected in accordance with the By-laws enacted on May 31, 1905,
and numbered 57-94.)

ELECTORAL DISTRICT	DIVISION	NUMBER OF GOVERNORS AND MEMBERS	NUMBER OF ORDINARY MEMBERS OF COUNCIL	ORDINARY MEMBERS OF COUNCIL
A.	BEDFORDSHIRE . . .	97	1	J. H. Howard.
	CHESHIRE. . . .	260	1	Hon. J. E. Cross.
	CORNWALL . . .	96	1	W. J. Hosken.
	DERBYSHIRE . . .	164	1	J. T. C. Eadie.
	DORSET	66	1	A. Hiscock.
	HAMPSHIRE AND CHANNEL ISLANDS	241	1	J. Falconer.
	HERTFORDSHIRE .	254	1	Richardson Carr.
	LANCASHIRE AND ISLE OF MAN. . .	348	2	W. Harrison ; T. H. Miller.
	MIDDLESEX . . .	150	1	G. Taylor.
	MONMOUTHSHIRE .	60	1	L. C. Wrigley.
	NORFOLK	266	1	H. Tallent.
	NORTHAMPTONSHIRE	200	1	Sir C. V. Knightley.
	NORTHUMBERLAND .	320	2	G. G. Rea ; Viscount Ridley.
	STAFFORDSHIRE . .	296	1	Sir R. P. Cooper.
	WORCESTERSHIRE .	166	1	E. V. V. Wheeler.
B.	YORKSHIRE, N.R. .	181	1	W. Scoby.
	SCOTLAND. . . .	226	1	T. A. Buttar.
		— 3,391	— 19	
	BUCKINGHAMSHIRE .	164	1	E. Mathews.
	DEVON	161	1	J. H. Hinc.
	DURHAM	151	1	C. Middleton.
	ESSEX	217	1	W. Nocton.

DISTRIBUTION OF GOVERNORS AND MEMBERS OF THE SOCIETY—*continued.*

ELECTORAL DISTRICT	DIVISION	NUMBER OF GOVERNORS AND MEMBERS	NUMBER OF ORDINARY MEMBERS OF COUNCIL	ORDINARY MEMBERS OF COUNCIL
B. <i>Contd.</i>	HEREFORDSHIRE	132	1	A. P. Turner.
	LEICESTERSHIRE	269	1	Sir H. F. de Trafford.
	LONDON	594	3	{ Howard Frank; W. A. May; W. A. Prout.
	NOTTINGHAMSHIRE	155	1	C. M. S. Pilkington.
	RUTLAND	21	1	S. N. Bankart.
	SHROPSHIRE	290	1	T. S. Minton.
	SUFFOLK	222	1	Fred Smith.
	SURREY	233	1	E. A. Hamlyn.
	WILTSHIRE	115	1	H. H. Smith.
	YORKSHIRE, W.R.	249	1	E. W. Stanyforth.
	SOUTH WALES	111	1	C. C. Rogers.
		—3,084	— 17	
C.	BERKSHIRE	212	1	George Adams.
	CAMBRIDGESHIRE	174	1	C. R. W. Adeane.
	CUMBERLAND	121	1	Joseph Harris.
	GLAMORGAN	80	1	R. Forrest.
	GLOUCESTERSHIRE	278	1	H. D. Broeklehurst.
	HUNTINGDONSHIRE	45	1	John Rowell.
	KENT	413	2	{ T. L. Aveling; H. F. Plumptre.
	LINCOLNSHIRE	371	2	{ Henry Dudding; C. W. Tindall.
	OXFORDSHIRE	144	1	R. W. Hobbs.
	SOMERSET	116	1	R. J. Bayntun Hippisley.
	SUSSEX	313	2	{ W. F. Ingram; Duke of Richmond and Gordon.
	WARWICKSHIRE	248	1	J. W. Glover.
	WESTMORLAND	60	1	C. W. Wilson.
	YORKSHIRE, E.R.	112	1	F. Reynard.
	IRELAND	129	1	R. G. Carden.
	NORTH WALES	163	1	R. M. Greaves.
		—2,979	— 19	
FOREIGN COUNTRIES.		283		
MEMBERS WITH NO ADDRESSES		21		
GRAND TOTALS		9,758	55	

GOVERNORS OF THE SOCIETY.

	Date of election as Member	Date of election as Governor
HIS MAJESTY THE KING...Windsor Castle	—	Feb. 3, 1864
T†H.R.H. THE PRINCE OF WALES, K.G....Marlborough House, S.W., and Sandringham, Norfolk	—	April 6, 1892
VP H.R.H. PRINCE CHRISTIAN OF SCHLESWIG-HOLSTEIN, K.G....Cumberland Lodge, Windsor	—	Aug. 4, 1875
†ABERDARE, Lord...Longwood, Winchester	April 1, 1885	Aug. 1, 1905
†ACLAND, Alfred Dyke...Digswell House, Welwyn	Oct. 8, 1902	Feb. 4, 1903
†ADEANE, C. R. W....Babraham Hall, Cambridge	Nov. 6, 1889	Jan. 10, 1906
ALINGTON, Lord, C.V.O....Crichel, Wimborne	May 7, 1879	April 4, 1906
†ALLCROFT, Herbert John...Stokesay Court, Onibury, Salop	—	Dec. 12, 1888
†ANCASTER, Earl of...Normanton Park, Stamford	Mar. 3, 1869	May 5, 1875
ANN, Sir Edwin T...West Parkfields, Kedleston Road, Derby	—	Aug. 1, 1906
ARCHER-HOUBLON, Col. George B...Hallingbury Place, Bishop's Stortford	—	Mar. 6, 1889
ASHWORTH, Alfred...Horsley Hall, Gresford	Dec. 2, 1868	Feb. 1, 1905
†ASSHETON, R. C....Hall Foot, Clitheroe	Mar. 6, 1889	May 30, 1906
ASSHETON-SMITH, C. G....Vaynol, Bangor, North Wales	—	May 6, 1908
ASTOR, Waldorf, jun....Cliveden, Taplow, Bucks.	—	Jan. 30, 1907
AUBREY-FLETCHER, Rt. Hon. Sir Henry, Bart., M.P. ....Ham Manor, Angmering, Sussex	June 6, 1883	July 31, 1907
BARING, Godfrey, M.P....Nubia House, Cowes, Isle of Wight	—	May 2, 1906
BARNARD, Lord...Raby Castle, Darlington	—	July 27, 1892
BARRYMORE, Lord...20 Hill Street, Berkeley Square, W.	Feb. 4, 1885	April 4, 1906
BATH, Marquis of...Longleat, Warminster	June 22, 1892	April 4, 1906
BATHURST, Earl, C.M.G....Cirencester House, Cirencester	July 3, 1889	April 4, 1906
BECK, A. Cecil, M.P....Harrold Hall, Bedford	—	Jan. 30, 1907
T†BEDFORD, Duke of, K.G....Woburn Abbey, Bedfordshire	—	May 3, 1893
†BEEVER, W. F. Holt...Yewden Lodge, Henley-on-Thames	April 2, 1879	June 6, 1894
†BELPER, Lord...Kingston Hall, Notts.	July 6, 1881	Mar. 6, 1895
†BENN, Thomas G....Thornton Gate, Rossall Beach, Fleetwood, R.S.O.	Mar. 13, 1878	Aug. 2, 1882
BENTINCK, Lord Henry...Underley, Kirkby Lonsdale	Dec. 12, 1888	Jan. 10, 1906
BEVAN, Francis A. ....54 Lombard Street, E.C. (representing Messrs. Barelay & Co., Ltd.)	—	Dec. 11, 1907
BINGHAM, E. C....Yeoveney Lodge, Staines	—	June 3, 1908
BINNEY, J....Pampisford Hall, near Cambridge	—	Jan. 10, 1906
BIRKIN, Sir T. I., Bart....Ruddington Grange, near Nottingham	Dec. 10, 1890	May 2, 1906
†BLYTH, Lord...Blythwood, Stansted, Essex	Nov. 3, 1875	July 27, 1892
BOWEN, G. W. H....Ickleton Grange, Gt. Chesterford, Essex	Nov. 2, 1892	Mar. 7, 1906
VP BOWEN-JONES, J. B....St. Mary's Court, Shrewsbury	Mar. 6, 1867	Feb. 1, 1905
BRAND, Admiral the Hon. T. Seymour...Glynde, Lewes	May 3, 1893	July 31, 1907
BRASSEY, Lord, G.C.B.Normanhurst Court, Battle	July 2, 1879	June 5, 1907
BRASSEY, Henry Leonard C....Apthorpe Hall, Wansford, Northants.	—	Feb. 3, 1892
BRISCOE, W. A....Longstowe Hall, Cambridge	—	Jan. 10, 1906
BROWNLOW, Earl...Belton House, Grantham	Aug. 3, 1887	April 4, 1906
BUCHANAN, James...Graffham, Petworth	—	July 27, 1904
BURGHCLERE, Lord...48 Charles Street, Berkeley Square, W.	—	Dec. 7, 1892
BURNS, Walter S. M....22 Old Broad Street, E.C.	—	April 4, 1906

T Trustee.

VP Vice-President.

† Life Governor.

‡ Member of Council.

List of Governors of the

	Date of Election as Member	Date of Election as Governor
CADOGAN, Earl, K.G....Culford Hall, Bury St. Edmunds	—	Dec. 11, 1889
CALTHORPE, Lord...Elvetbam, Winchfield	Nov. 7, 1883	May 2, 1894
CARRINGTON, Earl, K.G....Daws Hill, High Wycombe	—	Mar. 7, 1906
CATOR, John...Woodbastwick Hall, Norwich	—	May 1, 1907
T†CAWDOR, Earl...Stackpole Court, Pembrokeshire	Mar. 3, 1863	Mar. 2, 1892
†CAWSTON, George...The Manor House, Cawston, Norfolk	—	June 6, 1894
CHAPLIN, Rt. Hon. Henry, M.P. ...Stafford House, S.W.	—	Nov. 2, 1870
CHETWYND, G. J. B....Wyndthorpe, near Doncaster	May 4, 1904	May 7, 1906
CHRISTISON, Robert...Burwell Park, Louth, Lincs.	—	Nov. 4, 1908
†CLARENDON, Earl of, G.C.B....The Grove, Watford	June 5, 1872	May 2, 1894
CLIFDEN, Viscount...Lanhydrock, Bodmin	July 13, 1883	Mar. 7, 1906
COBHAM, Viscount...Hagley Hall, Stourbridge	Dec. 8, 1875	April 4, 1906
COCKBURN, N. C....Harmston Hall, Lincoln	May 4, 1892	April 4, 1906
COLEBROOKE, Lord...Stratford House, Stratford Place, W.	—	May 2, 1906
COOPER, Sir Daniel, Bart....Warren Tower, Newmarket	Feb. 4, 1891	Jan. 10, 1906
COOPER, Sir George A., Bart....Hursley Park, Winchester	Feb. 4, 1903	May 1, 1907
|| COOPER, Sir Richard P., Bart....Sbenstone Court, Lichfield	Dec. 12, 1888	Jan. 30, 1907
T CORNWALLIS, Fiennes S. W....Linton Park, Maidstone	—	July 2, 1884
†COTTERELL, Sir John, Bart....Garnons, Hereford	May 6, 1896	Dec. 12, 1906
T†COVENTRY, Earl of...Croome Court, Severn Stoke, Worc.	April 1, 1863	April 4, 1894
†COX, Frederick...Harefield Place, Uxbridge	—	July 31, 1901
CRAVEN, Thomas...Kirklington Hall, Southwell, Notts.	May 6, 1891	Dec. 6, 1892
CREWE, Earl of, K.G....Crewe Hall, Crewe, Cheshire	Feb. 6, 1884	Mar. 7, 1894
VP †CRUTCHLEY, Percy...Sunninghill Lodge, Ascot	June 3, 1879	Feb. 1, 1905
CURTIS, Charles C....South Collingbam, Newark, Notts.	Feb. 4, 1887	April 4, 1906
CURTIS-HAYWARD, Lt.-Col. J. F....Quedgeley House, Gloucester	Feb. 1, 1888	Dec. 12, 1906
DARTMOUTH, Earl of...Patshull Hall, Wolverhampton	—	Dec. 9, 1891
DAVIES, David, M.P....Plas Dinam, Llandinam, Mont.	June 1, 1904	Mar. 7, 1906
DEAN, W. M....3G Montagu Mansions, Baker Street, W.	—	July 31, 1907
DE LA RUE, Ernest...Lower Hare Park, Newmarket	—	April 4, 1906
VP †DERBY, Earl of, G.C.V.O., C.B....Knowsley, Prescott	Nov. 6, 1895	Dec. 9, 1908
DE ROTHSCHILD, Alfred C....Halton, Tring	—	Mar. 7, 1906
DERWENT, Lord...Hackness Hall, Scarborough	—	April 7, 1869
DESBOURGH, Lord, K.C.V.O....Taplow Court, Maidenhead	Dec. 12, 1888	Feb. 7, 1906
|| †DE TRAFFORD, Sir H. F., Bart....Hill Crest, Market Harborough	Aug. 1, 1883	June 1, 1892
T †DEVONSHIRE, Duke of...Chatsworth, Chesterfield	—	Mar. 2, 1892
†DICKSON-POYNTER, Sir J., Bart., M.P....Hartham Park, Corsbarn, Wilts.	Nov. 2, 1887	April 2, 1890
DIGBY, Lord...Minterne House, Cerne Abbas, Dorset	—	July 25, 1894
DOWNSHIRE, Marquis of...Easthampstead Park, Wokingham	—	Feb. 7, 1906
DUCIE, Earl of, G.C.V.O....Tortworth Court, Falfeld, R.S.O., Glos.	May 5, 1869	Feb. 1, 1905
DUGDALE, James Broughton...Wroxall Abbey, Warwick	Feb. 3, 1892	June 28, 1905
VP DUGDALE, John Marshall...Llwyn, Llanfyllin, S.O., Mont.	Feb. 1, 1888	Feb. 1, 1905
†DULEEP-SINGH, Prince Frederick...Old Buckenham Hall, Attleborough	—	July 25, 1894
DUNCOMBE, Col. W. H. O....Waresley Park, Sandy, Beds.	April 1, 1885	May 6, 1896
†DURHAM, Earl of...Lambton Castle, Durham	—	July 14, 1880
T EGERTON OF TATTON, Earl...Tatton Park, Knutsford	Mar. 6, 1872	Nov. 7, 1883
†ELLESMERE, Earl of...Worsley Hall, Manchester	—	July 7, 1869
ELLIOT, Sir Charles, Bart....Beestborpe Hall, Newark-on-Trent	—	May 2, 1906

T Trustee.

VP Vice-President.

† Life Governor.

|| Member of Council.

Royal Agricultural Society of England.

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	Date of Election as Member	Date of Election as Governor
ESSEX, Earl of...9 Mansfield Street, W.	Nov. 7, 1888	Nov. 2, 1892
EVANS, Charles Lee...Norton Hill, Runcorn, Cheshire	Feb. 2, 1881	May 1, 1907
EVANS, Lewis, F.S.A....Russells, Watford	—	July 27, 1904
EXETER, Marquis of...Burghley House, Stamford	May 4, 1898	June 21, 1898
FARQUHAR, Granville...24, Park Street, Grosvenor Square, W.	Feb. 6, 1889	April 4, 1906
FARRAR, Sidney Howard...10 and 11 Park Place, St. James's, S.W.	—	Feb. 7, 1906
VP FELLOWES, Rt. Hon. Ailwyn E....Honingham, Norwich	Dec. 12, 1888	May 31, 1905
VP FEVERSHAM, Earl of...Duncombe Park, Helmsley, Yorks.	Mar. 5, 1862	Mar. 3, 1875
FIFE, Duke of, K.T....15 Portman Square, W.	—	Nov. 7, 1888
FITZHARDINGE, Lord...Berkeley Castle, Glos.	Mar. 4, 1885	Feb. 1, 1905
†FORREST, Robert...St. Fagan's, Cardiff	Feb. 6, 1878	May 30, 1906
FOX, J. St. V....Girsby Manor, Lincoln	—	Feb. 7, 1906
FURNESS, Sir Christopher, M.P....Grantley Hall, Ripon	—	Jan. 10, 1906
GERARD, Lord...Eastwell Park, Asbford, Kent	April 13, 1904	Jan. 10, 1906
GIBSON, William...112 Regent Street, W.	—	Feb. 7, 1906
T GILBEY, Sir Walter, Bart....Elsenham Hall, Elsenham, Essex	Nov. 2, 1870	June 5, 1889
GOLDSMID, Oliver E. d'Avigdor...Somerhill, near Tonbridge	—	Mar. 5, 1902
GOOCH, Charles Edmund...Wyvenhoe Park, Colchester	—	April 1, 1908
GRAFTON, Duke of, K.G....Wakefield Lodge, Stony Stratford	—	June 3, 1884
GRAY, Harold S....Gog Magog Hills, Cambs.	—	April 4, 1906
VP†GREENALL, Sir Gilbert, Bart....Walton Hall, Warrington	Feb. 3, 1892	May 2, 1894
GRIFFITHS, John James...Highbury Grange, Highbury, N.	—	May 1, 1889
GROVES, James Grimble...Bank Hall, Chapel-en-le-Frith, Derbyshire	—	May 1, 1895
HADDINGTON, Earl of, K.T....Tynninghame, Prestonkirk, N.B.	—	April 4, 1906
HALL, A. C....Great Rollright, Chipping Norton	June 6, 1894	Feb. 7, 1906
HAMILTON AND BRANDON, Duke of, Hamilton Palace, Hamilton, N.B.	—	Aug. 1, 1905
HARDING, Colonel T. Walter...Madingley Hall, Cambridge	—	Feb. 7, 1906
HAREWOOD, Earl of, K.C.V.O....Harewood House, Leeds	June 6, 1883	Nov. 2, 1892
HASTINGS, Lord...Melton Constable, Norfolk	—	Dec. 11, 1907
HAVERSHAM, Lord...South Hill Park, Bracknell	Dec. 12, 1888	April 4, 1906
†HENDERSON, Sir Alex., Bart....Buscot Park, Faringdon, Berks.	Nov. 5, 1890	July 28, 1897
HENDERSON, Capt. Harold G....Kitemore, Faringdon	—	Mar. 7, 1906
†HENRYSON-CAIRD, James A....Cassencary, Creetown R.S.O., Kirkcudbright	May 7, 1873	July 31, 1895
HERTFORD, Marquis of, C.B....Ragley Park, Alcester	Aug. 2, 1882	May 7, 1884
†HEYWOOD, Sir Arthur Percival, Bart....Doveleys, Uttoxeter	April 7, 1875	Feb. 2, 1898
†HOLFORD, Lieut.-Col. George L., C.V.O., C.I.E....Westonbirt House, Tetbury, Glos.	—	April 6, 1892
HOOLEY, Terah F....Papworth Hall, near Cambridge	—	Nov. 7, 1906
†HORNSBY, James...Laxton Park, Stamford	June 6, 1878	May 29, 1895
†HOTFIELD, Lord...Hothfield Place, Ashford, Kent	—	May 7, 1879
HOWARD DE WALDEN, Lord...Seaford House, Belgrave Square, S.W.	—	Mar. 7, 1906
LLCHESTER, Earl of...Melbury, Dorchester	—	April 4, 1906
INNES, H. McLeod...Trinity College, Cambridge	—	Mar. 7, 1906
†IRWIN, Colonel Thomas A....Lynehow, Carlisle	May 5, 1880	June 25, 1895
†IVEAGH, Viscount, K.P....5 Grosvenor Place, S.W.	—	June 6, 1894

T Trustee.

VP Vice-President.

† Life Governor

|| Member of Council.

	Date of Election as Member	Date of Election as Governor
CADOGAN, Earl, K.G....Culford Hall, Bury St. Edmunds	—	Dec. 11, 1889
CALTHORPE, Lord...Elvetham, Winchfield	Nov. 7, 1883	May 2, 1894
CARRINGTON, Earl, K.G....Daws Hill, High Wycombe	—	Mar. 7, 1906
CATOR, John...Woodbastwick Hall, Norwich	—	May 1, 1907
T†CAWDOR, Earl...Stackpole Court, Pembrokeshire	Mar. 3, 1863	Mar. 2, 1892
†CAWSTON, George...The Manor House, Cawston, Norfolk	—	June 6, 1894
CHAPLIN, Rt. Hon. Henry, M.P. ...Stafford House, S.W.	—	Nov. 2, 1870
CHETWYND, G. J. B....Wyndthorpe, near Doncaster	May 4, 1904	May 7, 1906
CHRISTISON, Robert...Burwell Park, Louth, Lincs.	—	Nov. 4, 1908
†CLARENDON, Earl of, G.C.B....The Grove, Watford	June 5, 1872	May 2, 1894
CLIFDEN, Viscount...Lanhydrock, Bodmin	July 13, 1883	Mar. 7, 1906
COBHAM, Viscount...Hagley Hall, Stourbridge	Dec. 8, 1875	April 4, 1906
COCKBURN, N. C....Harmston Hall, Lincoln	May 4, 1892	April 4, 1906
COLEBROOKE, Lord...Stratford House, Stratford Place, W.	—	May 2, 1906
COOPER, Sir Daniel, Bart....Warren Tower, Newmarket	Feb. 4, 1891	Jan. 10, 1906
COOPER, Sir George A., Bart....Hursley Park, Winchester	Feb. 4, 1903	May 1, 1907
|| COOPER, Sir Richard P., Bart....Shenstone Court, Lichfield	Dec. 12, 1888	Jan. 30, 1907
T CORNWALLIS, Fiennes S. W....Linton Park, Maidstone	—	July 2, 1884
†COTTERELL, Sir John, Bart....Garnons, Hereford	May 6, 1896	Dec. 12, 1906
T†COVENTRY, Earl of...Croome Court, Severn Stoke, Worc.	April 1, 1863	April 4, 1894
†COX, Frederick...Harefield Place, Uxbridge	—	July 31, 1901
CrAVEN, Thomas...Kirklington Hall, Southwell, Notts.	May 6, 1891	Dec. 6, 1893
CREWE, Earl of, K.G....Crewe Hall, Crewe, Cheshire	Feb. 6, 1884	Mar. 7, 1894
VP †CRUTCHLEY, Percy...Sunninghill Lodge, Ascot	June 3, 1879	Feb. 1, 1905
CURTIS, Charles C....South Collingham, Newark, Notts.	Feb. 4, 1887	April 4, 1906
CURTIS-HAYWARD, Lt.-Col. J. F....Quedgeley House, Gloucester	Feb. 1, 1888	Dec. 12, 1906
DARTMOUTH, Earl of...Patshull Hall, Wolverhampton	—	Dec. 9, 1891
DAVIES, David, M.P....Plas Dinam, Llandinam, Mont.	June 1, 1904	Mar. 7, 1906
DEAN, W. M....3G Montagu Mansions, Baker Street, W.	—	July 31, 1907
DE LA RUE, Ernest...Lower Hare Park, Newmarket	—	April 4, 1906
VP †DERBY, Earl of, G.C.V.O., C.B....Knowsley, Prescott.	Nov. 6, 1895	Dec. 9, 1908
DE ROTHSCHILD, Alfred C....Halton, Tring	—	Mar. 7, 1906
DERWENT, Lord...Hackness Hall, Scarborough	—	April 7, 1869
DESBOROUGH, Lord, K.C.V.O....Taplow Court, Maidenhead	Dec. 12, 1888	Feb. 7, 1906
|| DE TRAFFORD, Sir H. F., Bart....Hill Crest, Market Harborough	Aug. 1, 1883	June 1, 1892
T †DEVONSHIRE, Duke of...Chatsworth, Chesterfield	—	Mar. 2, 1892
†DICKSON-POYNDER, Sir J., Bart., M.P....Hartham Park, Corsham, Wilts.	Nov. 2, 1887	April 2, 1890
DIGBY, Lord...Minterne House, Cerne Abbas, Dorset	—	July 25, 1894
DOWNSHIRE, Marquis of...Easthampstead Park, Wokingham	—	Feb. 7, 1906
DUCIE, Earl of, G.C.V.O....Tortworth Court, Falfield, R.S.O., Glos.	May 5, 1869	Feb. 1, 1905
DUGDALE, James Broughton...Wroxall Abbey, Warwick	Feb. 3, 1892	June 28, 1905
VP DUGDALE, John Marshall...Llwyn, Llanfyllin, S.O., Mont.	Feb. 1, 1888	Feb. 1, 1905
†DULEEP-SINGH, Prince Frederick...Old Buckenham Hall, Attleborough	—	July 25, 1894
DUNCOMBE, Col. W. H. O....Waresley Park, Sandy, Beds.	April 1, 1885	May 6, 1896
†DURHAM, Earl of...Lambton Castle, Durham	—	July 14, 1880
T EGERTON OF TATTON, Earl...Tatton Park, Knutsford	Mar. 6, 1872	Nov. 7, 1883
†ELLESMERE, Earl of...Worsley Hall, Manchester	—	July 7, 1869
ELLIOT, Sir Charles, Bart....Beesthorpe Hall, Newark-on-Trent	—	May 2, 1906

T Trustee.

VP Vice-President.

† Life Governor.

|| Member of Council

Royal Agricultural Society of England.

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	Date of Election as Member	Date of Election as Governor
ESSEX, Earl of...9 Mansfield Street, W.	Nov. 7, 1888	Nov. 2, 1892
EVANS, Charles Lee...Norton Hill, Runcorn, Cheshire	Feb. 2, 1881	May 1, 1907
EVANS, Lewis, F.S.A....Russells, Watford	—	July 27, 1904
EXETER, Marquis of...Burghley House, Stamford	May 4, 1898	June 21, 1898
FARQUHAR, Granville...24, Park Street, Grosvenor Square, W.	Feb. 6, 1889	April 4, 1906
FARRAR, Sidney Howard...10 and 11 Park Place, St. James's, S.W.	—	Feb. 7, 1906
VP FELLOWES, Rt. Hon. Ailwyn E....Honingham, Norwich	Dec. 12, 1888	May 31, 1905
VP FEVERSHAM, Earl of...Duncombe Park, Helmsley, Yorks.	Mar. 5, 1862	Mar. 3, 1875
FIFE, Duke of, K.T....15 Portman Square, W.	—	Nov. 7, 1888
FITZHARDINGE, Lord...Berkeley Castle, Glos.	Mar. 4, 1885	Feb. 1, 1905
†FORREST, Robert...St. Fagan's, Cardiff	Feb. 6, 1878	May 30, 1906
FOX, J. St. V....Girsby Manor, Lincoln	—	Feb. 7, 1906
FURNESS, Sir Christopher, M.P....Grantley Hall, Ripon	—	Jan. 10, 1906
GERARD, Lord...Eastwell Park, Ashford, Kent	April 13, 1904	Jan. 10, 1906
GIBSON, William...112 Regent Street, W.	—	Feb. 7, 1906
T GILBEY, Sir Walter, Bart....Elsenham Hall, Elsenham, Essex	Nov. 2, 1870	June 5, 1889
GOLDSMID, Oliver E. d'Avigdor...Somerhill, near Tonbridge	—	Mar. 5, 1902
GOOCH, Charles Edmund...Wyvenhoe Park, Colchester	—	April 1, 1908
GRAFTON, Duke of, K.G....Wakefield Lodge, Stony Stratford	—	June 3, 1884
GRAY, Harold S....Gog Magog Hills, Cambs.	—	April 4, 1906
VP†GREENALL, Sir Gilbert, Bart....Walton Hall, Warrington	Feb. 3, 1892	May 2, 1894
GRIFFITHS, John James...Highbury Grange, Highbury, N.	—	May 1, 1889
GROVES, James Grimble...Bank Hall, Chapel-en-le-Frith, Derbyshire	—	May 1, 1895
HADDINGTON, Earl of, K.T....Tynninghame, Prestonkirk, N.B.	—	April 4, 1906
HALL, A. C....Great Rollright, Chipping Norton	June 6, 1894	Feb. 7, 1906
HAMILTON and BRANDON, Duke of, Hamilton Palace, Hamilton, N.B.	—	Aug. 1, 1905
HARDING, Colonel T. Walter...Madingley Hall, Cambridge	—	Feb. 7, 1906
HAREWOOD, Earl of, K.C.V.O....Harewood House, Leeds	June 6, 1883	Nov. 2, 1892
HASTINGS, Lord...Melton Constable, Norfolk	—	Dec. 11, 1907
HAVERSHAM, Lord...South Hill Park, Bracknell	Dec. 12, 1888	April 4, 1906
†HENDERSON, Sir Alex., Bart....Buscot Park, Faringdon, Berks.	Nov. 5, 1890	July 28, 1897
HENDERSON, Capt. Harold G....Kitemore, Faringdon	—	Mar. 7, 1906
†HENRYSON-CAIRD, James A....Cassencary, Creetown R.S.O., Kirkcudbright	May 7, 1873	July 31, 1895
HERTFORD, Marquis of, C.B....Ragley Park, Alcester	Aug. 2, 1882	May 7, 1884
†HEYWOOD, Sir Arthur Percival, Bart....Doveleys, Uttoxeter	April 7, 1875	Feb. 2, 1898
†HOLFORD, Lieut.-Col. George L., C.V.O., C.I.E....Westonbirt House, Tebury, Glos.	—	April 6, 1892
HOOLEY, Terah F....Papworth Hall, near Cambridge	—	Nov. 7, 1906
†HORNSBY, James...Laxton Park, Stamford	June 6, 1878	May 29, 1895
†HOTFIELD, Lord...Illothfield Place, Ashford, Kent	—	May 7, 1879
HOWARD DE WALDEN, Lord...Seaford House, Belgrave Square, S.W.	—	Mar. 7, 1906
ILCHESTER, Earl of...Melbury, Dorchester	—	April 4, 1906
INNES, H. McLeod...Trinity College, Cambridge	—	Mar. 7, 1906
†IRWIN, Colonel Thomas A....Lynehew, Carlisle	May 5, 1880	June 25, 1895
†IVEAGH, Viscount, K.P....5 Grosvenor Place, S.W.	—	June 6, 1894

T Trustee.

VP Vice-President.

† Life Governor

‖ Member of Council.

List of Governors of the

	Date of election as Member	Date of election as Governor
JAMES, John Arthur...Coton House, Rugby	June 28, 1905	July 31, 1907
JAMES, William D....West Dean Park, Chichester	Nov. 7, 1894	Feb. 7, 1906
†JERSEY, Earl of, G.C.B., G.C.M.G....Middleton Park, Bicester	June 30, 1875	April 4, 1894
JOICEY, E....Blenkinsopp Hall, Haltwhistle, Northumberland	—	Dec. 12, 1888
†JONES, Walter J. H....Blakemere, Hartford, Cheshire	April 11, 1888	May 2, 1894
†JONES, William C....Llanerch Park, Trefnant, R.S.O.	—	May 30, 1906
†KLEINWORT, Herman Greverns...Wierton Place, Boughton Mon- chelsea, Kent	—	June 4, 1902
§KOLHAPUR, H.H. The Maharajah of, G.C.S.I., G.C.V.O....Kolhapur, India	—	Feb. 6, 1889
†KYNNEERSLEY, Thomas F....Leighton Hall, Ironbridge, Salop	Nov. 7, 1883	Nov. 4, 1891
LAMB, R. O....Hayton House, How Mill, Carlisle	Dec. 11, 1907	Jan. 29, 1908
†LANSDOWNE, Marquis of, K.G., G.C.S.I....Bowood, Calne, Wilts.	Feb. 3, 1875	Feb. 5, 1896
LATHOM, Earl of...Lathom House, Ormskirk	—	Nov. 4, 1903
LAYCOCK, J. F....Wiseton, Bawtry, S.O., Yorks.	Nov. 2, 1887	May 2, 1906
†LECONFIELD, Lord...Petworth House, Sussex	—	Mar. 6, 1901
LEEDS, Duke of...Hornby Castle, Bedale	Nov. 6, 1901	Aug. 1, 1906
LICHFIELD, Earl of...Shugborough, Staffs (representing National Provincial Bank of England)	May 1, 1889	Aug. 1, 1906
†LLANGATTOCK, Lord...The Hendre, Monmouth	Mar. 1, 1871	May 2, 1894
LONDESBOROUGH, Earl of, K.C.V.O....Londesborough Park, Market Weighton	—	Nov. 7, 1906
†LONDONDERRY, Marquis of, K.G....Wynyard Park, Stockton-on- Tees	—	June 3, 1885
†LONG, Rt. Hon. Walter H., M.P....Rood Ashton, Trowbridge, Wilts.	Aug. 4, 1880	Dec. 11, 1895
†LONSDALE, Earl of...Lowther Castle, Penrith	—	July 4, 1883
LUCAS, Lord...Wrest Park, Amptill, Beds.	—	Mar. 7, 1906
LUDLOW, Lord...27 Portland Place, W.	—	May 30, 1906
MACIVER, Colin...Blaisdon Hall, near Longhope, Glos.	April 6, 1881	Feb. 7, 1906
†MADEN, J. H....Rockcliffe House, Bacup, Lancs.	—	July 29, 1908
MAIR-RUMLEY, J. G....The Hammonds, Udimore, S.O., Sussex	June 5, 1901	Feb. 1, 1905
MALMESBURY, Earl of...Heron Court, Christchurch, Hants.	—	May 2, 1906
MANNERS, Lord...Avon Tyrrell, Christchurch, Hants.	Dec. 12, 1888	April 4, 1906
MANVERS, Earl...Thoresby Park, Ollerton, Notts.	Feb. 1, 1888	April 4, 1906
MATTHEWS, F. B....Lartington Hall, by Darlington	—	May 6, 1908
MEYER, Carl...Shortgrove, Newport, Essex	—	Feb. 7, 1906
T MIDDLETON, Lord...Birdsall House, York	—	Mar. 3, 1875
MIDWOOD, G. Norris...Brown Street, Salford	April 11, 1888	Mar. 5, 1902
MILDMAY, F. B., M.P....Flete, Ivy Bridge, Devon	—	Nov. 1, 1905
†MOORSOM-MITCHINSON-MAUDE, C. R....Harewood, Leeds	Dec. 2, 1857	July 26, 1893
†MORETON, Lord...Sarsden House, Chipping Norton, Oxon.	—	Mar. 3, 1875
†MOREWOOD, C. R. Palmer...Alfreton Park, Derbyshire	April 7, 1875	Feb. 7, 1894
†MOUNT-EDGCUMBE, Earl of, G.C.V.O....Mount-Edgcumbe, Plymouth	Nov. 6, 1861	Mar. 5, 1890
MUNCASTER, Lord...Muncaster Castle, Ravensglass, Cumberland	—	June 23, 1891
NEELD, Lt.-Col. Sir Audley D., Bart., C.B., M.V.O....Grittleton, Chippenhams	—	July 31, 1901
NEWCASTLE, Duke of...Clumber, Worksop	—	May 2, 1906
NORFOLK, Duke of, K.G....Arundel Castle, Sussex	—	July 29, 1891

T Trustee.

P President.

† Life Governor.

§ Honorary Member.

	Date of election as Member	Date of election as Governor
NORMANTON, Earl of...Somerley, Ringwood	—	April 4, 1906
VP NORTHBROOK, Earl of...Stratton, Micheldever, Hants.	June 2, 1880	Feb. 1, 1905
VP NORTHUMBERLAND, Duke of, K.G....Alnwick Castle, North- umberland	May 29, 1895	Feb. 27, 1907
†ONSLow, Earl of, G.C.M.G....Clandon Park, Guildford, Surrey	Nov. 3, 1880	May 27, 1903
PAGET, Almeric...Brandon Park, Brandon, Suffolk	—	July 29, 1908
†PALMER, Sir Walter, Bart....50 Grosvenor Square, W.	—	Feb. 1, 1899
VP†PARKER, Hon. Cecil T....Eccleston, Chester	April 7, 1876	May 25, 1898
†PARR, Roger Charlton...Grappenhall Heyes, Warrington	May 7, 1902	July 30, 1902
†PEARSON, Sir Weetman D., Bart., M.P....Paddockhurst, Worth, Sussex	Nov. 6, 1895	Aug. 1, 1905
PECKOVER, Lord...Bank House, Wisbech	May 7, 1894	Feb. 7, 1906
PERKS, Sir R. W., Bart., M.P....11 Kensington Palace Gardens, W.	—	Mar. 7, 1906
PHILLIPS, Frederick S....Sunnyside, Holmwood, Surrey	—	Mar. 7, 1906
PHILLIPS, Lionel...Tilney Hall, Winchfield, Hants.	—	June 28, 1905
PHILLIPS, W. W. G....Berwick, Salop	—	June 5, 1907
†PLATT, Col. Henry, C.B....Gorddino, Llanfairfechan	Mar. 5, 1862	Feb. 3, 1897
†PLATT, James E.	June 30, 1886	May 1, 1895
†PLYMOUTH, Earl of, C.B....Hewel Grange, Bromsgrove	—	Nov. 6, 1878
†PORTLAND, Duke of, K.G....Welbeck Abbey, Worksop.	—	June 2, 1880
†PORTMAN, Viscount...Bryanston, Blandford	Aug. 6, 1862	Mar. 5, 1890
PORTSMOUTH, Earl of...Hurstbourne Park, Whitechurch, Hants.	—	Dec. 9, 1891
†POWIS, Earl of...Powis Castle, Welshpool	April 6, 1887	June 23, 1891
PRIOR, Charles Lawrance...Grimblethorpe Hall, Lincoln	—	July 31, 1907
†QUILTER, Sir W. Cuthbert, Bart....Bawdsey Manor, Woodbridge, Suffolk	Mar. 3, 1886	April 7, 1897
RADNOR, Earl of...Longford Castle, Salisbury	—	April 9, 1902
†RAMSDEN, Lt.-Col. W. J. F....Rogerthorpe Manor, Pontefract	May 2, 1883	June 25, 1895
†REDESDALE, Lord, G.C.V.O., K.C.B....Batsford Park, Moreton-in- Marsh, Glos.	—	Nov. 3, 1886
REISS, James E....36 Cadogan Square, S.W.	Feb. 7, 1883	May 2, 1894
RHODES, Fairfax...Brockhampton Park, Andoversford, S.O., Glos.	—	Jan. 29, 1908
||†RICHMOND AND GORDON, Duke of, K.G....Goodwood, Chichester	—	April 13, 1904
||†RIDLEY, Viscount...Blagdon, Cramlington	—	June 5, 1901
RIPON, Marquis of, K.G....Studley Royal, Ripon.	—	July 3, 1861
†ROSEBERY, Earl of, K.G....38 Berkeley Square, W.	—	June 6, 1894
ROTHSCHILD, Lord, G.C.V.O....148 Piccadilly, W.	Nov. 7, 1888	June 4, 1890
ROTHSCHILD, Leopold de...Ascott, Wing, Leighton Buzzard	—	Mar. 1, 1893
ROTHSCHILD, Hon. N. Charles...Ashton Wold, Oundle.	—	Jan. 10, 1906
ROTHSCHILD, Hon. Walter...Tring Park, Tring	—	Jan. 10, 1906
RUTLAND, Duke of...Belvoir Castle, Grantham	Dec. 12, 1888	July 31, 1907
SALISBURY, Marquis of, C.B....Hatfield House, Herts.	Nov. 7, 1888	May 2, 1906
SALOMONS, Leopold...Norbury Park, Dorking	—	May 6, 1896
SANDERSON, W. J....East Field Hall, Warkworth	—	Dec. 11, 1907
SAVILLE, Lord, K.C.V.O....Rufford Abbey, Ollerton, Notts.	May 4, 1898	Jan. 30, 1907
†SCHRÖDER, Baron Sir J. H. W. Von, Bart., C.V.O....The Dell, Staines	Nov. 3, 1869	April 2, 1890
SHAFTESBURY, Earl of, K.C.V.O....St. Giles' House, Salisbury	May 6, 1903	May 1, 1907

VP Vice-President.

† Life Governor.

|| Member of Council.

List of Governors.

	Date of election as Member	Date of election as Governor
SHEFFIELD, Sir Berkeley D. G., Bart., M.P....Normanby Park, Doncaster	Feb. 7, 1900	Feb. 1, 1905
*SIMONDS, W. Barrow...Abbotts Barton, Winchester	June 19, 1839	Mar. 5, 1890
†SLATER, Sam...Woolhanger Manor, Parracombe, R.S.O., N. Devon	—	Feb. 7, 1906
SMITH, Eustace Abel...Longhills, Lincoln	June 5, 1889	April 4, 1906
SMITH, G. Murray...Gumley Hall, Market Harborough	Dec. 12, 1888	April 4, 1906
†SMITH, Hon. W. F. D., M.P....3 Grosvenor Place, S.W.	—	Dec. 9, 1891
SPENCER, Earl, K.G....Althorp Park, Northampton	Dec. 5, 1860	Mar. 3, 1875
††STANYFORTH, E. Wilfrid...Kirk Hammerton Hall, York	Feb. 6, 1884	July 31, 1895
†STERN, Sir Edward D....Fan Court, Chertsey	May 1, 1889	Dec. 9, 1908
STRADBROKE, Earl of, C.V.O., C.B....Henham, Wangford	Feb. 3, 1886	May 2, 1906
†STRAKER, Herbert...Hartforth Grange, Richmond, Yorks.	Feb. 2, 1887	July 29, 1908
STRAUSS, E. A., M.P....Kingston House, Abingdon	—	Mar. 7, 1906
SUFFOLK, Earl of...Charlton Park, Malmesbury	—	May 2, 1906
SUTHERLAND, Duke of, K.G....Stafford House, St. James's, S.W.	Mar. 1, 1882	Dec. 7, 1892
†SUTTON, Martin J....Holme Park, Sonning, Berks.	May 1, 1878	Feb. 1, 1882
†SWINBURNE, Sir John, Bart....Capheaton, Newcastle-on-Tyne	May 1, 1867	May 7, 1890
SWITHINBANK, Harold...Denham Court, Denham, Bucks.	Feb. 4, 1885	Mar. 7, 1906
†TARLETON, Lieut. Alfred H., M.V.O., R.N....Breakspears, Uxbridge	—	July 29, 1903
†THOMPSON, Henry Yates...19 Portman Square, W.	—	Nov. 7, 1894
T†THOROLD, Sir John H., Bart....Syston Park, Grantham	Aug. 5, 1868	May 1, 1889
TOLLEMACHE, Lord...Peckforton Castle, Tarporley	—	Mar. 7, 1906
TOWNLEY, Rev. Charles F....Fulbourn Manor, Cambridge	Mar. 7, 1894	Feb. 7, 1906
TREDEGAR, Viscount...Tredegar Park, Newport, Mon.	—	May 3, 1876
†TRENCH, Col. The Hon. Wm. Le Poer...3 Hyde Park Gardens, W.	Dec. 12, 1888	May 1, 1901
TURBERVILL, Col. J. P....Ewenny Priory, Bridgend	Mar. 5, 1884	July 27, 1892
†TWEEDMOUTH, Lord, K.T....Guisachan, Beaulieu, N.B.	—	July 31, 1889
UPTON, John H....Cokethorpe, Witney, Oxon.	—	Apr. 4, 1906
VAN DE WEYER, Col. V. W. B....New Lodge, Windsor Forest	Aug. 1, 1888	Jan. 10, 1906
†VIVIAN, H. H....Tregavethan, near Truro	Nov. 1, 1876	May 1, 1907
WALTER, Col. Arthur F....Bearwood, Wokingham	—	Mar. 6, 1895
WARD, Hon. John Hubert, M.V.O....Chilton Lodge, Hungerford	—	Nov. 4, 1908
†WARREN, Reginald A....Preston Place, East Preston, Worthing	June 3, 1857	June 6, 1894
WATSON, Rev. Wentworth...Rockingham Castle, Uppingham	—	May 4, 1904
WERNHER, Sir Julius, Bart....82 Piccadilly, W.	—	April 13, 1904
WESTMINSTER, Duke of, G.C.V.O....Eaton Hall, Chester	—	May 30, 1900
†WHARNCLIFFE, Earl of...Wortley Hall, Sheffield	—	May 2, 1906
WHITBREAD, Sam...Southill, Biggleswade, Beds.	June 3, 1879	Mar. 7, 1906
†WHITEHEAD, Sir Charles...Barming House, Maidstone	April 1, 1857	Feb. 6, 1889
WILLIAMS, Joseph G....Pendley Manor, Tring	—	Jan. 10, 1906
†WILSON, Darcy Bruce...Seacroft Hall, near Leeds	June 3, 1891	Feb. 1, 1905
WILSON, H. Rimington...Blyborough Hall, Kirton-in-Lindsey	June 5, 1907	July 31, 1907
†WINTERTON, Earl, M.P....Shillinglee Park, Petworth	—	Jan. 29, 1908
WOLVERTON, Lord...26, St. James's Place, S.W.	—	May 2, 1906
WYNN, Hon. F. G....Glynllivon Park, Carnarvon	Mar. 4, 1891	Nov. 4, 1903
WYTHES, Ernest J....Copped Hall, Epping, Essex	April 12, 1893	July 29, 1903
VP YARBOROUGH, Earl of...Brocklesby Park, Lincolnshire	Aug. 4, 1880	April 4, 1906
†YERBURGH, Robert A....Woodfold Park, Blackburn	—	Nov. 7, 1888
†ZETLAND, Marquis of, K.T....Aske Hall, Richmond, Yorks.	Feb. 4, 1874	May 2, 1894

T Trustee.

VP Vice-President.
† Life Governor.* Elected a Foundation Life Governor, March 5, 1890.
‡ Member of Council.

HONORARY MEMBERS OF THE SOCIETY.

(*"British Subjects or Foreigners who have rendered exceptional services to Agriculture or Allied Sciences," and who have been elected under By-law 10 as Honorary Members, without payment of subscription.*)

	Date of election
ARISUGAWA, H.I.H. Prince...Tokio, Japan	June 29, 1905
ARNIM, Berndt von...Criewen, Brandenburg, Germany	June 21, 1899
BANG, Dr. B....Professor at the Royal Veterinary College, Copenhagen.	July 31, 1901
CARTUYVELS-VAN-DE-LINDEN, Jules, M.A....215 Rue de la Loi, Brussels	Dec. 11, 1895
CHAUVEAU, Prof. Auguste, M.D., LL.D....10 Avenue Jules Janin, Passy, Paris.	Dec. 6, 1893
CLARKE, Sir Ernest, M.A., F.S.A....31 Tavistock Square, London, W.C.	Dec. 6, 1905
DE VOGÜE, Marquis...2 Rue Fabert, Paris (Ordinary Member, June 1, 1892)	June 21, 1899
ELLIOTT, Sir Thomas H., K.C.B...Secretary, Board of Agriculture, 4 Whitehall Place	June 23, 1903
ETZDORF, Landrath von...Elbing, West Prussia	May 30, 1900
EWART, Prof. James Cosser, M.D., F.R.S. ...Regius Professor of Natural History at the University of Edinburgh.	May 1, 1901
FLEISCHMANN, Prof. Wm....Director of the Agricultural Institute of the Royal University of Königsberg	Dec. 12, 1894
KOLHAPUR, H.H. The Maharajah of, G.C.S.I., G.C.V.O....Kolhapur (Governor, Feb. 6, 1889)	July 7, 1902
LE COCQ, Señor Alfredo Carlos...Director of the Department of Agriculture, Lisbon	June 23, 1903
LIVEING, Prof. G. D., M.A., F.R.S....The University, Cambridge	Mar. 7, 1894
LOVINK, Herr Hermanus Johannus...Director-General of Agriculture, The Hague, Holland	April 13, 1904
MACDONALD, James, F.R.S.E....Secretary of the Highland and Agricultural Society of Scotland, 3 George IV. Bridge, Edinburgh	June 23, 1903
MOFADYEAN, Prof. Sir John, M.B., B.Sc., C.M....Royal Veterinary College, Camden Town, N.W. (Ordinary Member, Feb. 1, 1893)	May 1, 1901
NOBBE, Dr. J. C. F....Director of the Experimental Station, Tharand, Saxony	May 6, 1896
PASSY, Louis...45 Rue de Clichy, Paris	June 23, 1891
PLUNKETT, The Rt. Hon. Sir Horace Curzon, K.C.V.O., F.R.S....Vice-President of the Irish Department of Agriculture and Technical Instruction, Dublin	June 23, 1903
PROSKOWETZ, Emanuel Ritter von, sen...Kwassitz, Moravia	Nov. 5, 1890
RAMOS-MEXIA, Señor Don Ezequiel ...Sociedad Rural Argentina, Buenos Aires	July 30, 1902
REID, His Excellency the Hon. Whitelaw...Dorchester House, Park Lane, W.	June 29, 1905
SALMON, Dr. D. E....Chief of the Bureau of Animal Industry, United States Department of Agriculture, Washington	July 31, 1901
SAUNDERS, Dr. William, C.M.G., F.R.S.E., F.L.S....Director of Experimental Farms, Department of Agriculture, Ottawa, Canada	Feb. 26, 1908
SCHERBATOFF, Prince Alexander...President of the Imperial Agricultural Society of Moscow, Russia	Nov. 3, 1897
SIEMONI, Dr. Giovanni Carlo...Director-General of the Department of Agriculture, Rome	June 23, 1903
THIEL, Dr. H....Privy Councillor, and Director of the Department of Agriculture, 17 Lutherstrasse, Berlin	Aug. 1, 1883
TISSERAND, Eugène...Ancien Directeur de l'Agriculture, 17 Rue du Cirque, Paris	Aug. 1, 1883
VASSILLIERE, Léon...Director of Agriculture at the Ministry of Agriculture, Paris	June 23, 1903

SUMMARY OF MEMBERS ON REGISTER, DECEMBER 31, 1908.

- 1 Foundation Life Governor (Member elected before the granting of the Charter on March 26, 1840).
 178 Governors paying an annual subscription of 5*l*.
 88 Life Governors who have compounded for their annual subscriptions.
 6,442 Members paying an annual subscription of 1*l*.
 3,019 Life Members who have compounded for their annual subscriptions.
 30 Honorary Members.
-
- 9,758 Total number of Governors and Members at December 31, 1908.

TABLE SHOWING THE NUMBER OF GOVERNORS AND MEMBERS
IN EACH YEAR FROM THE ESTABLISHMENT OF THE SOCIETY.

Year ending with Show of	President of the Year	Governors		Members			Total.
		Life	Annual	Life	Annual	Honor- ary	
1839	3rd Earl Spencer	—	—	—	—	—	1,100
1840	5th Duke of Richmond	86	189	146	2,434	5	2,860
1841	Mr. Philip Pusey	91	219	231	4,047	7	4,595
1842	Mr. Henry Handley	101	211	328	5,194	15	5,849
1843	4th Earl of Hardwicke	94	209	429	6,155	15	6,902
1844	3rd Earl Spencer	95	214	442	6,161	15	6,927
1845	5th Duke of Richmond	94	198	527	5,899	15	6,733
1846	1st Viscount Portman	92	201	554	6,105	19	6,971
1847	6th Earl of Egmont	91	195	607	5,478	20	6,391
1848	2nd Earl of Yarborough	93	186	648	5,387	21	6,335
1849	3rd Earl of Chichester	89	178	582	4,643	20	5,512
1850	4th Marquis of Downshire	90	169	627	4,356	19	5,261
1851	5th Duke of Richmond	91	162	674	4,175	19	5,121
1852	2nd Earl of Ducie	93	156	711	4,002	19	4,981
1853	2nd Lord Ashburton	90	147	739	3,928	19	4,923
1854	Mr. Philip Pusey	88	146	771	4,152	20	5,177
1855	Mr. William Miles, M.P.	89	141	795	3,838	19	4,882
1856	1st Viscount Portman	85	139	839	3,896	20	4,979
1857	Viscount Ossington	83	137	896	3,933	19	5,068
1858	6th Lord Berners	81	133	904	4,010	18	5,146
1859	7th Duke of Marlborough	78	130	927	4,008	18	5,161
1860	5th Lord Walsingham	72	119	927	4,047	18	5,183
1861	4th Earl of Powis	84	90	1,113	3,328	18	4,633
1862	H.R.H. The Prince Consort	83	97	1,151	3,475	17	4,823
1863	1st Viscount Portman	80	88	1,263	3,735	17	5,183
1863	Viscount Eversley	80	88	1,263	3,735	17	5,183
1864	2nd Lord Feversham	78	45	1,343	4,013	17	5,496
1865	Sir E. C. Kerrison, Bart., M.P.	79	81	1,386	4,190	16	5,752
1866	1st Lord Tredegar	79	84	1,395	4,049	15	5,622
1867	Mr. H. S. Thompson	77	82	1,388	3,903	15	5,465
1868	6th Duke of Richmond	75	74	1,409	3,888	15	5,461
1869	H.R.H. The Prince of Wales, K.G.	75	73	1,417	3,864	17	5,446
1870	7th Duke of Devonshire	74	74	1,511	3,764	15	5,438
1871	6th Lord Vernon	72	74	1,589	3,896	17	5,648
1872	Sir W. W. Wynn, Bart., M.P.	71	73	1,655	3,953	14	5,766
1873	Earl Cathcart	74	62	1,832	3,936	12	5,916
1874	Mr. Edward Holland	76	58	1,944	3,756	12	5,846
1875	Viscount Bridport	79	79	2,058	3,918	11	6,146
1876	2nd Lord Chesham	83	78	2,164	4,013	11	6,349
1877	Lord Skelmersdale	81	76	2,239	4,073	17	6,486
1878	Col. Kingscote, C.B., M.P.	81	72	2,328	4,130	26	6,637
1879	H.R.H. The Prince of Wales, K.G.	81	72	2,453	4,700	26	7,332
1880	9th Duke of Bedford	83	70	2,673	5,083	20	7,929
1881	Mr. William Wells	85	69	2,765	5,041	19	7,979
1882	Mr. John Dent Dent	82	71	2,849	5,059	19	8,080
1883	6th Duke of Richmond and Gordon	78	71	2,979	4,952	19	8,099
1884	Sir Brandreth Gibbs	72	72	3,203	5,408	21	8,776
1885	Sir M. Lopes, Bart., M.P.	71	69	3,356	5,619	20	9,135
1886	H.R.H. The Prince of Wales, K.G.	70	61	3,414	5,569	20	9,134
1887	Lord Egerton of Tatton	71	64	3,440	5,387	20	8,982
1888	Sir M. W. Ridley, Bart., M.P.	66	56	3,521	5,225	16	8,884
1889	HER MAJESTY QUEEN VICTORIA	73	58	3,567	7,153	15	10,866
1890	Lord Moreton	122	58	3,846	6,941	17	10,984
1891	2nd Earl of Ravensworth	117	60	3,811	6,921	19	10,928
1892	Earl of Feversham	111	69	3,784	7,066	20	11,050
1893	1st Duke of Westminster, K.G.	107	74	3,786	7,138	21	11,126
1894	8th Duke of Devonshire, K.G.	113	73	3,798	7,212	22	11,218
1895	Sir J. H. Thorold, Bart.	120	80	3,747	7,179	23	11,149
1896	Sir Walter Gilbey, Bart.	126	83	3,695	7,253	23	11,180
1897	H.R.H. The Duke of York, K.G.	126	83	3,705	7,285	24	11,223
1898	Earl Spencer, K.G.	121	79	3,687	7,182	25	11,094
1899	Earl of Coventry	116	75	3,656	7,009	23	10,879
1900	H.R.H. The Prince of Wales, K.G.	111	71	3,628	6,832	24	10,666
1901	Earl Cawdor	102	70	3,564	6,338	27	10,033
1902	H.R.H. Prince Christian, K.G.	100	69	3,500	5,955	26	9,650
1903	H.R.H. The Prince of Wales, K.G.	99	62	3,439	5,771	27	9,398
1904	16th Earl of Derby, K.G.	96	68	3,375	5,906	32	9,477
1905	Lord Middleton	95	72	3,270	5,808	31	9,276
1906	Mr. F. S. W. Cornwallis	94	155	3,132	6,189	30	9,600
1907	Earl of Yarborough	91	174	3,076	6,299	29	9,669
1908	Duke of Devonshire	89	178	3,019	6,442	30	9,758

STATEMENT made to the Council by the Chairman
of the Finance Committee, on presenting the
Accounts for the year 1908.

Mr. ADEANE explained briefly the accounts for the year 1908. With regard to the Ordinary Income and Expenditure Account, taking the side of expenditure first, it would be found that, allowing for the credit balances, the expenditure was practically the same in 1907 as in 1908. For the year 1907 the total expenditure was 7,867/., and for last year (1908) 7,879/.,—only a difference of 12/. It would be observed that there was a considerable saving under the head of administration, amounting to 660/. That had been made up largely under the following heads:—There had been a saving of interest on the Harewood House debenture stock, which in the previous year had amounted to 222/. They had paid off the loan used for the purchase of 16 Bedford Square, representing a further saving of 116/., as compared with last year, and they had not had any expenditure with regard to the Council Chamber, which in the year 1907 cost 364/. On the other hand, there had been an increase of 109/., for printing and binding the Text Book, and there had also been last year an increase of 500/., in the contribution to the Show Account from the Governors' and Members' subscriptions.

The income for the year was practically the same as in 1907, with the exception of an additional 144/., which was due to an enlarged membership. The total income for the year was 8,442/., and the total expenditure 7,879/., giving a credit balance of 563/.

With regard to the balance-sheet, it would be seen that the Society's capital at the end of 1907 stood at 22,267/.. The total addition to capital during the year 1908, after writing off 472/., for depreciations, had amounted to 14,325/., which gave a total capital at the end of 1908 of 43,592/. The Reserve Fund at the end of 1907 stood at 22,000/. Since then the Council had invested 14,028/., and that, with other sums received since, and in addition to the 700/., they were asking the Council to invest that day, would bring their total reserve up to 37,700/. He thought they might congratulate themselves upon the fact that this was the largest invested fund the Society had ever possessed. (Hear, hear.)

FORECAST OF ORDINARY RECEIPTS AND EXPENDITURE FOR 1909.
(Other than in respect of the Show.)

Prepared by direction of the Finance Committee on the basis of the Recommendations of September 21, 1905, made by the Special Committee.

Actual Figures for 1908.		<i>Receipts.</i>	
£			£
7,487	From Subscriptions for 1909 of Governors and Members		7,480
148	From Interest on Daily Balances		100
554	From Interest on Investments		950
*253	From Sales of Text Book, Pamphlets, &c. (This does not include the sales of Journals, which are deducted from the cost of production)		250
8,442			8,780
		<i>Expenditure.</i>	
£			£
1,514	Salary of Secretary and Official Staff		1,586
40	Pension to Official pensioned in 1888		40
757	Rent, Lighting, Cleaning, Wages, &c. (say)		700
414	Printing and Stationery		400
200	Postage, Telegrams, Carriage, &c.		200
416	Miscellaneous		300
600	Journal		650
615	Chemical Department		600
250	Botanical Department		250
200	Zoological Department		200
202	Veterinary Department		200
171	Examinations for National Diploma (R.A.S.E. Share)		200
5,379			5,328

£		£
5,379	Brought forward	5,326
	<i>Exceptional Expenditure.</i>	£
	Donation to Secretary	100
	Additional Shelving for Library Books	50
	Expenses of preparing Catalogue for Library, and Binding Books	100
		250
	Reprint of 5,000 copies of Text Book	250
2,500	Contribution from Governors' and Members' Subscriptions to the expenses of the Annual Show	2,500
7,879	Total Estimated Expenditure	8,326
	Estimated Receipts	8,780
	Estimated Expenditure	8,326
	Estimated Receipts over Expenditure	454

Taking the estimates for the coming year, the Finance Committee estimate that from subscriptions of Governors and Members they will receive 7,480/., from interest on Daily Balances 100/., from interest on Investments 950/., from the sales of Text Books, Pamphlets, &c., 250/., making their total estimated receipts 8,780/.. On the side of expenditure, under salaries of Secretary and Official Staff, there was an increase. He would like to point out with regard to this increase that four years ago the salaries of the staff were considerably reduced. It was generally considered that it was hard on them at the time, and they had had since then a greater amount of work put upon them than previously. Pension to Official, 40/.; Rent, Lighting, Cleaning, Wages, &c., 700/.; Printing and Stationery, 400/.; Postage and Telegrams, 200/.; Miscellaneous, 300/.; Journal, 650/.,—an increase of 50/., recommended by the Special Committee; Chemical Department, 600/.; Botanical Department, 250/.; Zoological Department, 200/.; Veterinary Department, 200/.; Examinations for National Diploma, 200/.. Then, with regard to the exceptional expenditure, there was 100/., donation to their Secretary, Mr. McRow. He was quite sure the Council would support the Finance Committee in that recommendation. They had had good fortune during the last three years, but their present position to a great extent was not only due to fortune, but to hard work. No one had worked harder than Mr. McRow, and they owed him a great debt for the work he had done, and also for the courtesy and tact he had always shown to all Members of the Society. To return to the estimate—for additional shelving for library books 50/., was required, for cataloguing and binding books 100/., and re-publication of Text Book 250/.. Dr. Fream's book sold practically as fast as they could print it, and the Journal Committee recommended that a further 5,000 copies should be prepared. He might say, with regard to that expenditure, that not only would it come back to the Society, but there would be a considerable profit. The contribution to the Show Account of 2,500/., would make a total estimated expenditure for the year of 8,326/., as against estimated receipts 8,780/., giving an estimated balance of receipts over expenditure amounting to 454/..

In conclusion, Mr. ADEANE said that they were getting through their period of stringency, and on the part of some there was a desire for expansion. He only hoped they would not go in for expansion too quickly, and that their memories would not be too short, because it was only five years ago that the Society assembled together to consider whether their financial position would permit of the Royal Show being held in the ensuing year (1905). He thought they ought to secure the Society against ever being placed in such a position again. He hoped that if they kept all branches of the Society at a high level, and proper state of efficiency, Members would second them in their endeavour to build up a strong reserve fund for the Society. (Hear, hear.) He believed that that was the only way to place themselves outside any possible anxiety for the future.

Dr.

BALANCE-SHEET,

Corresponding figures for 1907.

	£	s.	d.	£	s.	d.	£	s.	d.
To SUNDRY CREDITORS—									
£									
1,197	Sundry Creditors and outstanding			1,487	15	4			
65	Subscriptions received in 1908 in advance			87	2	0			
1,932	Show Receipts received in 1908 and belonging to 1909			575	6	9			
3,194							2,150	4	1
To CAPITAL—									
7,045	As at December 31, 1907			29,267	1	8			
5,473									
5,727	BALANCE FROM SHOW FUND—								
5,056	Profit on Show at Newcastle-on-Tyne	10,053	18	8					
2,000	Contribution from Ordinary Income	2,500	0	0					
				12,553	18	8			
579	Life Compositions received in 1908			614	0	0			
23	Donations towards the Society's Funds (including half of a Legacy of 2,000 <i>l.</i>)			1,066	0	0			
3,431	Credit Balance on Ordinary Income and Expenditure Account			563	11	11			
431				44,064	12	3			
29,765									
DEPRECIATIONS written off, viz:—									
	Fixtures	36	0	4					
	Furniture	196	2	3					
	Machinery	11	1	11					
	Show Plant	178	18	1					
	Buildings at Woburn	50	0	0					
				472	2	7			
498							43,592	9	8
29,267									

[*Note.*—For investments other than those shown in this Balance-sheet see Statement of Funds held in Trust, &c., page xxii.]

£32,461

£45,742 13 9

THOMAS MCROW, *Secretary.*
WELTON, JONES & CO., *Accountants.*

SOCIETY OF ENGLAND.

xix

DECEMBER 31, 1908.

Cr.

Corresponding figures for 1907.		£ s. d.	£ s. d.
£			
14,000	By Reserve Fund 25,922 <i>l.</i> 7 <i>s.</i> 9 <i>d.</i> Consols. at cost (average cost 85)	22,000 0 0	
7,795	Balance at Bank to be invested	14,028 18 0	36,028 18 0
21,795			
	By LEASE OF 16 BEDFORD SQUARE	2,900 0 0	
2,900	Less Amount written off	100 0 0	2,800 0 0
	By FIXTURES—		
	Value at December 31, 1907	480 4 10	
480	Less Depreciation at 7½ per cent.	36 0 4	444 4 6
	By FURNITURE—		
	Value at December 31, 1907	1,970 2 8	
	Less Sales	9 0 0	
	Less Depreciation at 10 per cent.	1,961 2 8	
1,970		196 2 3	1,765 0 5
1,500	By PICTURES (500 <i>l.</i>) and BOOKS (1,000 <i>l.</i>)		1,500 0 0
	By MACHINERY—		
	Value at December 31, 1907	115 3 2	
	Less Sales	4 4 0	
	Less Depreciation at 10 per cent.	110 19 2	
115		11 1 11	99 17 3
	By SHOW PLANT—		
	Value at December 31, 1907	1,789 1 0	
	Less Depreciation at 10 per cent.	178 18 1	
	Added during 1908	1,610 2 11	
1,789		20 12 2	1,630 15 1
	By BUILDINGS FOR POT EXPERIMENTS AT WOBURN—		
	As per Account at December 31, 1907	600 0 0	
600	Less Depreciation.	50 0 0	550 0 0
479	By SUNDRY DEBTORS		603 9 8
	By CASH AT BANKERS AND IN HAND—		
	Ordinary Account	244 17 3	
833	In Hand	75 11 7	320 8 10
£32,461			£45,742 13 9

Examined, audited, and found correct, this 18th day of February, 1909.

JONAS M. WEBB,
NEWELL P. SQUAREY, } Auditors on behalf of the Society.

STATEMENT OF ORDINARY INCOME

The Expenditure in this account includes not only cash payments.

Corresponding figures for 1907.

Income.

£		£ s. d.	£ s. d.
	ANNUAL SUBSCRIPTIONS:—		
799	Governors: Subscriptions for 1908	873 0 0	
110	Members: Received in 1907, but belonging to 1908	65 2 0	
6,007	Subscriptions for 1908	6,126 17 0	
167	Subscriptions for 1908 (additional)	151 19 0	
75	Subscriptions for previous years	62 1 0	
	LIFE GOVERNORS AND MEMBERS:—		
204	Annual Contributions	208 9 0	
7,362	MISCELLANEOUS:—		7,487 8 0
546	Interest on Daily Balances	148 4 10	
134	Income on Investments	554 3 1	
76	Sales of Pamphlets, Diagrams, &c.	84 10 1	
161	Sales of Text Book	132 16 5	
19	Letting of Council and Committee Rooms	19 19 0	
—	Miscellaneous	15 0 0	
			954 13 5
936	Rent of 12 Hanover Square	313 10 0	
	Less Rent paid	313 10 0	

£8,298£8,442 1 5THOMAS MCROW, *Secretary.*WELTON, JONES & CO., *Accountants.*

AND EXPENDITURE FOR THE YEAR 1908.

xxi

but all liabilities in connection with the year's transactions.

Corresponding figures for 1907.

Expenditure.

£	GENERAL ADMINISTRATION:—	£ s. d.	£ s. d.
1,514	Salaries of Official Staff	1,514 0 0	
40	Pensions to Officials	40 0 0	
112	Professional Charges:—Auditors' Fees, &c.	58 16 0	
974	Rent, Rates, Taxes, Insurance, and House Expenses	757 5 9	
147			
222			
5	Binding and Purchase of Books	7 19 3	
351	Printing and Stationery	414 1 3	
160	Postage and Telegrams	199 11 10	
59	Carriage of Parcels and Travelling Expenses (including annual visit to Woburn)	70 3 3	
66	Advertising and Miscellaneous Office Expenses	44 19 4	
116			
3,766			3,106 16 8
	JOURNAL OF THE SOCIETY, VOL. 69:—		
450	Printing, Binding, &c.	547 8 4	
185	Postage, Packing, and Delivery	185 0 0	
145	Editing, Literary Contributions, &c.	150 0 0	
90	Illustrations	50 0 0	
870		932 8 4	
89		£ s. d.	
214	Less Sales (Vol. 68 and earlier)	82 8 4	
303	Advertisements (Vol. 69)	250 0 0	332 8 4
567			600 0 0
32	ELEMENTS OF AGRICULTURE:—		
	Printing and Binding Text Book		109 12 9
	PAMPHLETS:—		
67	Report on Plans of Farm Buildings	49 2 6	
	Printing further pamphlets	30 15 6	
	Printing Diagrams	19 8 6	
			99 6 6
	LABORATORY:—		
613	Salaries, Wages, &c.		614 15 1
	OTHER SCIENTIFIC DEPARTMENTS:—		
250	Consulting Botanist's Salary and Expenses	250 0 0	
200	Zoologist's Salary	200 0 0	
200	Grant to Royal Veterinary College	200 0 0	
2	Medals for Proficiency in Cattle Pathology	2 5 6	
	Grant to Tuberculosis (Animals) Committee	25 0 0	
652			677 5 6
	EXAMINATION FOR NATIONAL DIPLOMA IN AGRICULTURE:—		
161	Honoraria and Expenses of Examiners	172 13 3	
19	Travelling Expenses of Officials	41 2 8	
28	Hotel Expenses of Examiners and Officials	26 16 3	
21	Printing, Stationery, and Advertising, &c.	44 16 4	
11	Writing Diplomas	15 7 0	
68	Salary for Assistance	49 10 0	
308		350 5 6	
89	Less Entry Fees received and Sales of Examination Papers	99 13 8	
219		250 11 10	
96	Less Highland and Agricultural Society's Moiety	125 5 11	
123			125 5 11
	EXAMINATION FOR NATIONAL DIPLOMA IN DAIRYING:—		
14	Milk, Cream, and Appliances for Examination	14 19 9	
40	Fees to Examiners	40 3 5	
21	Maintenance and Travelling Expenses	14 18 10	
2	Printing and Postage	7 3 9	
77		77 5 9	
30	Less Entry Fees and Sales of Examination Papers, &c.	31 18 8	
47			45 7 1
2,000	CONTRIBUTION TO SHOW FUND		2,500 0 0
431	CREDIT BALANCE CARRIED TO BALANCE-SHEET		563 11 11
£8,298			£8,442 1 5

Examined, audited, and found correct, this 18th day of February, 1909.

JONAS M. WEBB,
NEWELL P. SQUAREY, } Auditors on behalf of the Society.

NEWCASTLE SHOW, 1908.

Statement showing the distribution of the Prizes awarded in the several sections of the Newcastle Show, with comparative figures of the Lincoln Show.

Corresponding figures for 1907.	STATEMENT OF PRIZES AWARDED:—		
	£	£	s. d.
2,570	Horses	3,130	0 0
2,483	Cattle	2,596	0 0
1,782	Sheep	1,672	0 0
557	Pigs	690	15 0
159	Poultry	173	15 0
73	Cheese and Butter	91	0 0
40	Cider and Perry	38	0 0
63	Wool	59	0 0
27	Horse-shoeing	27	0 0
50	Farms	260	0 0
	Sheep Dog Trials	21	0 0
	Dairy Cows and Milkers' Competition .	48	10 0
40	Contribution to Bee Department . .	40	0 0
7,844		8,847	0 0
2,899	Less :—Prizes given by various Societies, &c.	2,439	8 0
1,000	Prizes given by Newcastle Local Committee	1,610	0 0
3,899		4,049	8 0
3,945		£4,797	12 0
VOI. 69.		EE	

STATEMENT OF RECEIPTS AND EXPEN-

JUNE 30 TO

Corresponding figures for 1907.

Receipts.

		£ s. d.	£ s. d.
2,000	Subscription from Newcastle Local Committee		2,000 0 0
	Prizes given by Agricultural and Breed Societies	2,430 8 0	
3,899	Do. do. Newcastle Local Committee	1,610 0 0	4,049 8 0

FEES FOR ENTRY OF IMPLEMENTS:—

	Implement Exhibitors' Payments for Shedding	5,549 2 11	
	Non-Members' Fees for Entry of Implements	172 0 0	
5,873	Fees for Entry of "New Implements"	45 0 0	5,766 2 11

FEES FOR ENTRY OF LIVE STOCK:—

	By Members:—1,800 Entries @ 1l.	1,800 0 0	
	330 Entries @ 30s.	495 0 0	
	192 Entries @ 2l.	384 0 0	
	49 Post Entries @ 2l.	98 0 0	
	12 Post Entries @ 50s.	30 0 0	
2,783			2,807 0 0
	By Non-Members:—126 Entries @ 2l.	252 0 0	
	92 Entries @ 3l.	276 0 0	
	18 Entries @ 4l.	72 0 0	
	6 Post Entries @ 4l.	24 0 0	
	2 Post Entries @ 5l.	10 0 0	
524			634 0 0
	49 Entries @ 10s.		24 10 0
56	194 Entries @ 5s.		48 10 0

FEES FOR ENTRY OF POULTRY:—

	By Members:—161 Entries @ 2s. 6d.	20 2 6	
135	By Non-Members:—603 Entries @ 3s. 6d.	105 10 6	125 13 0

OTHER ENTRY FEES:—

45	Fees for Entry of Produce	48 4 6
32	Fees for Entry in Horse-shoeing Competition	28 5 0
102	Fees for Entry in Horse-jumping Competition, &c.	71 0 0
	Fees for Entry in Farm Prize Competition	27 0 0

CATALOGUE:—

18	Extra Lines for Particulars of Implement	£ s. d.
	Exhibits	16 16 0
4	Woodcuts of "New Implements"	6 2 6
236	Advertising in Catalogue	296 8 3
19	Sales of Implement Section of Catalogue	21 5 0
	(including bound copies)	
653	Sales of Combined Catalogue	722 10 1
21	Sales of Programmes	57 10 0
951		1,120 11 10
35	Less Commission on Sales	39 18 8
916		1,080 13 2

MISCELLANEOUS RECEIPTS:—

465	Amount received from Refreshment Contractors	515 0 0
96	Rent for Railway Offices	93 10 0
60	Premium for Cloak Room	60 0 0
30	Rent for Board of Agriculture Pavilion	30 0 0
30		
4	Miscellaneous	4 7 6
685		702 17 6

£17,050

Carried forward

£17,413 4 1

DITURE OF THE SHOW AT NEWCASTLE,

XXV

JULY 4, 1908.

Corresponding figures for 1907.

Expenditure.

		£ s. d.	£ s. d.	£ s. d.
	COST OF ERECTION OF SHOWYARD:—			
1,400	Transferring Society's Permanent Buildings } from Lincoln to Newcastle-upon-Tyne } (including taking down and re-erecting)		1,400 0 0	
669	Fencing round Showyard		746 12 10	
1,428	Erection of Implement Shedding		1,351 7 9	
2,909	Erection of Stock Shedding		1,064 19 2	
223	Erection of Poultry and Produce Sheds		202 7 4	
215	Erection of Dairy		185 10 0	
60	Erection of Fodder Shed, Office, &c.		76 0 0	
402	Erection of Grand Stand and Large Ring		358 1 7	
104	Erection of Horse-shoeing Shed and Stabling		121 0 0	
1,224	Various Offices and Stands: Bee Shed, Lavatories, Stables, Lunging Rings, and Repairs to Permanent Buildings, &c.		1,168 13 1	
172	Printing Signs and fixing do., providing and fixing Judging Rings and Hurdles, erecting Temporary Exit Sheds, and constructing Platform in front of Entrances		199 2 6	
6	Insurance		6 1 3	
18	Ironmongery		13 18 9	
135	Education and Forestry Exhibition		134 15 8	
23	Board of Agriculture Pavilion		27 3 4	
1,081	Hire of Canvas, Felt, &c.		1,084 15 9	
536	General Labour and Horse Hire (including Society's Clerk of Works)		599 5 4	
10,605			10,739 14 4	
1,464	Less 20 per cent. on 7,998l. 15s. 5d.	1,599 17 1		
	60 Flag Poles at 10s.	30 0 0		
			1,629 17 1	
9,141				9,109 17 3
	SURVEYOR:—			
343	Salary, 300l.; Travelling Expenses to London, 37l. 16s., and } Petty Cash, 17s. 6d. }			338 13 6
	PRINTING:—			
569	Printing of Prize Sheets, Entry Forms, Admission } Orders, Circulars to Exhibitors, Prize Cards, &c., Tickets, } and Miscellaneous }		544 9 3	
102	Programmes for Members		78 4 6	
33	Plans of Showyard		29 18 0	
642	Printing of Catalogues		701 11 8	
103	Binding of Catalogues		92 13 0	
15	Carriage of Catalogues to Showyard		16 4 1	
58	Printing Awards		86 3 6	
8	Programmes of Jumping Competitions		22 12 0	
1,530				1,571 16 0
	ADVERTISING:—			
136	Advertising Closing of Entries in Newspapers		127 4 1	
178	Advertising Show in Newspapers		141 19 5	
406	Bill Posting		400 5 5	
228	Printing of Posters and Postcards, &c.		435 9 0	
63	Press Visit, &c., before Show		34 2 6	
1,011				1,139 0 5
	POSTAGE, CARRIAGE, &C.:—			
83	General Postage		91 14 8	
33	Postage of Tickets to Members		35 14 1	
12	Carriage of Luggage		10 14 6	
128				138 3 3
	AMOUNT OF MONEY PRIZES AWARDED, including 4,049l. 8s. given by various Societies and Newcastle Local Committee (see receipt per contra)			8,847 0 0
7,845	[See page xxiii for Statement of Distribution of Prizes.]			
	COST OF FORAGE FOR LIVE STOCK:—			
773	Hay, 187l. 2s. 2d.; Straw, 319l. 1s. 3d.; Green Food, } 227l. 13s. 8d.; Insurance, 2l. 0s. 6d.; Wages, &c., 7l. 10s. . }			743 7 7
	JUDGES' FEES AND EXPENSES:—			
467	Judges of Implement Trials, 22l. 1s.; Miscellaneous } Implements, 15l. 16s. 4d.; Judges of Horses, 83l. 10s. 5d.; } Cattle, 132l. 2s. 1d.; Sheep, 120l. 1s. 5d.; Pigs, 30l. 5s. 7d.; } Poultry, 15l. 2s. 3d.; Butter, 5l. 3s.; Cheese, 3l. 3s.; } Cider and Perry, 28l. 7s. 2d.; Wool, 6l. 4s.; Horse- } shoeing, 13l. 9s. 3d.; Luncheons, 21l. 0s. 5d. }			496 5 11
£21,238	Carried forward		£22,384 3 11	

EE 2

Receipts (contd.).

Corresponding figures for 1907.

£
17,050

	£ s. d.	£ s. d.
Brought forward		17,413 4 1

ADMISSIONS TO SHOWYARD:—

390	Tuesday, June 30, @ 5s.	596 14 6	
2,705	Wednesday, July 1, @ 2s. 6d.	3,957 0 8	
2,749	Thursday, July 2, @ 2s. 6d.	3,532 18 9	
2,476	Friday, July 3, @ 1s.	4,653 17 1	
1,442	Saturday, July 4, @ 1s.	2,549 2 11	
135	Season Tickets	617 16 0	
361	Day Tickets	426 1 0	
10,258			16,333 10 11

ENTRANCES TO HORSE RING:—

143	Wednesday, July 1	200 16 0	
187	Thursday, July 2	192 11 0	
148	Friday, July 3	116 19 6	
100	Saturday, July 4	136 13 0	
551	Tickets sold for Reserved Enclosure	811 3 11	
1,129			1,458 3 5

SALES:—

98	Sales of Produce at Dairy	111 16 1	
343	Auction Sales in Showyard and Share of Commission	281 8 3	
			393 4 4

£28,878£35,598 2 9

Examined, audited, and found correct, this 26th day of November, 1908.

THOMAS MCROW, *Secretary.*
WELTON, JONES & CO., *Accountants.*

JONAS M. WEBB.	} <i>Auditors on behalf of the Society.</i>
HUBERT J. GREENWOOD,	
NEWELL P. SQUAREY,	

Corresponding figures for 1907.

Expenditure (contd.).

		£ s. d.	£ s. d.
21,238	Brought forward		22,384 3 11
23	Badges for Judges and other Officials		31 1 3
47	Rosettes		48 5 4
	GENERAL ADMINISTRATION :—		
83	Stewards :—Personal and Railway Expenses	105 4 3	
59	Assistant Stewards :—Personal and Railway Expenses	122 13 5	
210	Official Staff :—Extra Clerks, 122l. 9s. 6d.; Lodgings, 52l. 17s. 6d.; Maintenance of Clerks, 40l. 10s. 9d.; Travelling Expenses, 12l. 4s.; Secretary's Hotel and Travelling Expenses, 56l. 17s. 3d.	284 19 0	
79	Finance Office :—Superintendent of Turnstiles, 10l. 10s.; Grand Stand Men, 32l. 18s.; Turnstile Men, 34l.; Bank Clerks, 30l. 12s.; Refreshments, 5l. 11s. 8d.	113 11 8	
41	Awards Office :—Clerks, 32l. 9s.; Awards Boys, 9l. 1s.	41 10 0	
472			667 18 4
	General Management :—		
39	Foreman and Assistant Foremen	38 16 1	
89	Yardmen and Foddermen	88 7 10	
39	Door and Gate Keepers	43 1 7	
11			
90	Veterinary Department :—Veterinary Inspectors	85 1 11	
147	Engineering Department :—Consulting Engineer and Assistants, 61l. 11s. 9d.; Wages to Workmen, 9l. 8s. 3d.; House and Maintenance, 18l. 1s.; Repairs, 5l. 0s. 11d.; Carriage, 2l. 14s. 3d.	96 16 2	
550	Police, &c. :—Metropolitan Police, 576l. 15s. 10d.; Commissioners, 26l. 14s.	603 9 10	
965			955 13 5
294	Dairy :—Staff, 125l. 11s. 4d.; Milk, 46l. 11s.; Ice, 9l.; Utensils, 51l. 2s. 3d.; Salt, 1l. 16s.; Butter Tests, 18l. 12s. 9d.; Milk Analyses, 16l. 19s. 2d.; Carriage, 1l. 1s. 9d.; Fuel, 3l. 12s. 6d.; Engine, 15l. 4s. 4d.; Cheese and Butter Boxes, 2l. 9s. 6d.; Lodgings, 16s. 6d.; Refreshments, 7l. 3s. 10d.; Miscellaneous Payments, 6l. 5s. 2d.	306 6 1	
38	Poultry :—Superintendent, 12l. 10s. 2d.; Penning, Attendants, and Food, 16l.; Carriage, 9l. 2s. 9d.	37 12 11	
43	Horse-shoeing :—Hire of Forges, 28l. 5s. 2d.; Fuel, 3l. 12s. 6d.; Gratuities, 7l. 5s.; Wages, 5l. 10s. 9d.; Medals, 1l. 16s.; Refreshments, 2l. 4s. 8d.	48 14 1	
20	Produce :—Analyses of Cider	13 16 3	
—			406 9 4
63	Farm Prize Competition :—Expenses of Judging Farms, &c. Trials of Implements :—Cost of Manure Distributors, &c.		208 8 4 129 15 9
	GENERAL SHOWYARD EXPENSES :—		
103	Military Band	100 0 0	
45	St. John Ambulance	42 0 0	
55	Official Luncheons	74 10 6	
63	Hire of Furniture	50 0 0	
75			
45	Education and Forestry Exhibition	60 14 1	
10			
54	Telephone Extension	47 19 9	
25			
6	Telegraph Extension	20 5 0	
—	Carriage of Sleepers	100 0 0	
11	Hire of Weighbridge	14 7 4	
64	Hire of Chairs	62 9 4	
11	Medals	18 4 0	
9			
3	Fuel	4 16 8	
—	Levelling Showground	39 0 0	
17	Posting Bills in Showyard	6 0 0	
—	Hurdles, 7l. 3s. 4d.; Carriage, 9l. 3s. 6d.; Cloth, &c., 9l.; Printing and Colouring Plans of Showyard, 5l. 16s. 1d.; Forage, 3l. 16s.; Hire of Scales, 2l. 5s.	37 3 11	
26	Miscellaneous	34 17 10	
619			712 8 5
			25,544 4 1
5,056	Credit Balance		10,053 18 8
£28,878			£35,598 2 9

Actual profit to the Society on the Newcastle Show £10,053 18 8
 Contribution from Ordinary Funds of the Society to the Show Fund 2,500 0 0

Balance carried to Reserve Fund £12,553 18 8

MEMORANDA.

ADDRESS OF LETTERS.—All letters on the general business of the Society should be addressed to "The Secretary, Royal Agricultural Society of England, 16 Bedford Square, London, W.C."

TELEGRAMS.—Registered address for telegrams: "Practice, London."

TELEPHONE NUMBER.—"Gerrard," 3675.

OFFICE HOURS.—10 to 4. On Saturdays, 10 to 2.

ANNUAL GENERAL MEETING, Wednesday, December 8, 1909.

MONTHLY COUNCIL (for transaction of business), at noon: usually on the first Wednesday in every month, excepting January, September, and October: open only to Members of Council and Governors of the Society.

SUBSCRIPTIONS.—1. *Annual.*—The minimum subscription of a Governor is 5*l.*, and that of a Member 1*l.*, due in advance on the 1st of January of each year, and becoming in arrear if unpaid by the 1st of June.

2. *For Life.*—Governors may compound for their subscriptions for future years by paying at once the sum of 50*l.*, and Members by paying 15*l.* After payment of ten or more annual subscriptions, a Member may compound for future subscriptions, including that of the current year, by a single payment of 10*l.*; and after payment of twenty or more annual subscriptions, by a single payment of 5*l.*—or 25*l.* in the case of Governors.

No Governor or Member can be allowed to enter into a composition for life until all subscriptions due by him at the time shall have been paid.

No Governor or Member whose subscription is in arrear is entitled to any of the privileges of the Society.

All Members of the Society are, under the By-laws, bound to pay their annual subscriptions until they shall withdraw from it by notice in writing to the Secretary.

PAYMENTS.—Subscriptions may be paid to the Secretary, either at the office of the Society, 16 Bedford Square, London, W.C.; or by means of crossed cheques in favour of the Secretary, or by crossed postal orders. When making remittances it should be stated by whom, and on whose account, they are sent. All Cheques and Postal Orders should be crossed "London and Westminster Bank."

On application to the Secretary, forms may be obtained for authorising the regular payment, by the Bankers of individual Members, of each annual subscription as it falls due. Members are particularly invited to avail themselves of these Bankers' orders, in order to save trouble both to themselves and to the Society. When payment is made to the London and Westminster Bank, as the Bankers of the Society, it will be desirable that the Secretary should be advised by letter of such payment, in order that the entry in the Bankers' book may be at once identified, and the amount posted to the credit of the proper person. No coin can be remitted by post, unless the letter be registered.

JOURNAL.—The Volumes of the Society's Journal are (when the subscription is not in arrear) forwarded by post to Members, or delivered from the Society's Office to Members, or to the bearer of their written order.

The back numbers of the Journal are kept constantly on sale by the publisher, Mr. JOHN MURRAY, 50A Albemarle Street, W.

GLOUCESTER MEETING, JUNE 22 TO 26, 1909. Entries close: Implements, March 20; post entries, April 1. Live Stock, and Cider and Perry, May 20; Poultry and Produce (except cider and perry), May 31.

NEW MEMBERS.—Every candidate for admission into the Society must be nominated by a Governor or Member, and must duly fill up and sign an application for Membership on the appointed form. Forms of proposal may be obtained on application to the Secretary, who will inform new Members of their election by letter.

[Copies of the full Report of any of the Council Meetings held during the year 1908 may be obtained on application to the Secretary, at 16 Bedford Square, London, W.C.]

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Minutes of the Council.

WEDNESDAY, JANUARY 29, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Right Hon. VICTOR CAVENDISH, M.P. (President) in the Chair :—

Present :—Trustees.—The Earl of Coventry, Lord Middleton, Lord Moreton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. George Adams, Mr. Charles R. W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Brocklehurst, Sir Richard P. Cooper, Bart., Mr. J. Falconer, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. Ernest A. Hamlyn, Mr. Joseph Harris, Mr. W. Harrison, Mr. Arthur Hiscock, Mr. R. W. Hobbs, Mr. J. Howard Howard, Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. W. Nocton, Mr. R. G. Patterson, Mr. F. Reynard, the Duke of Richmond and Gordon, K.G., Mr. C. C. Rogers, Mr. E. W. Shackle, Mr. Fred Smith, Mr. E. W. Stanyforth, Mr. R. Stratton, Mr. George Taylor, Mr. John Thornton, and Mr. E. V. V. Wheeler.

The following Members of the Newcastle Local Committee were also present:—Mr. John Fitzgerald, Mr. J. M. Oubridge, Mr. Johnstone Wallace, and Mr. A. M. Oliver (Local Secretary).

Mr. CAVENDISH, at the commencement of the proceedings, said that, as he was occupying the Chair for the first time, he desired to express his gratitude for the honour that had been conferred upon him. He was the third of his family to occupy the position of President of the Society, and he did so with the greatest possible pleasure. He hoped that, with the kind indulgence and support of the Council, he would be able to carry on the great work of the Society in the way his predecessors had done, and he felt confident that he could rely upon the support of the Council during his year of office.

The PRESIDENT then said he had to announce, with great regret, the death, on January 15, of Sir Massey Lopes, who had been for many years closely connected with the Society. Sir Massey, who had reached the age of ninety, joined the Council in the year 1865 and was President of the Society in 1885, in which year the Annual Country Meeting was held at Preston. In the same year he was elected a Vice-President, and continued his association with the Council until the year 1905, when he retired.

The Minutes of the last meeting of the Council, held on Wednesday, December 11, 1907, were taken as read and approved.

Earl Winterton, M.P., Mr. R. O. Lamb, and Mr. Fairfax Rhodes were elected Governors, and 151 duly nominated candidates were admitted into the Society as Members under By-law 2. The name of one Member (Mr. B. H. B. Gadd) was restored to the Registers under By-law 14.

The Report of the Finance Committee was received and adopted, and a request from the recently-formed Tuberculosis (Animals) Committee for

permission to hold their meetings at, and have their correspondence directed to No. 16 Bedford Square, was, on the motion of Mr. ADEANE, acceded to by the Council.

The Reports of the General Newcastle, Journal and Education, and Chemical and Woburn Committees having been received and adopted, Mr. STRATTON asked for some information with regard to the Feeding Experiments at the Woburn Farm.

Dr. VOELCKER explained that there would be experiments with sheep on the unexhausted manurial value of different foods, and feeding experiments with bullocks on the relative values of two different kinds of mangolds grown on the Farm.

The Report of the Committee of Selection having been received and adopted, the PRESIDENT announced the names of those of the newly elected Members of Council who were present at the meeting, and, on behalf of the Council, he extended to them a very cordial welcome.

The PRESIDENT said that, with one exception, the suggestions made by Members at the Annual General Meeting in December last had been dealt with in the Committees' reports, and as Mr. Hamlyn, who had made the remaining suggestion, was present, perhaps they could deal with the matter at that meeting. Mr. HAMLYN replied that his suggestion, "That the Council should consider the advisability of approaching the Board of Agriculture to request them to take measures to compel butchers selling foreign meat to exhibit a notice to that effect," spoke for itself. His views were all embodied in a letter which had appeared in *The Standard* on December 13, 1907, and if it would not take up too much of the Council's time, he would ask the Secretary to read it to the meeting. As however the letter was rather lengthy, it was, at the suggestion of the PRESIDENT, agreed to postpone the consideration of Mr. Hamlyn's suggestion until the next meeting.

Other business having been transacted, the Council adjourned until Wednesday, February 26, 1908, at 11 a.m.

WEDNESDAY, FEBRUARY 26, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Right Hon. VICTOR CAVENDISH, M.P. (President) in the Chair:—

Present:—Trustees.—Mr. F. S. W. Cornwallis, the Earl of Coventry, Lord Middleton, Lord Moreton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, the Right Hon. A. E. Fellowes, the Earl of Northbrook, the Hon. C. T. Parker.

Other Members of the Council.—Mr. George Adams, Mr. Charles R. W. Adeane, Mr. T. L. Aveling, Mr. S. N. Bankart, Sir Richard P. Cooper, Bart., Sir H. F. de Trafford, Bart., Mr. H. Dudding, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. Ernest A. Hamlyn, Mr. Arthur Hiscock, Mr. R. W. Hobbs, Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. T. S. Minton, Mr. W. Nocton, Mr. R. G. Patterson, Mr. G. G. Rea, Mr. F. Reynard, Mr. C. C. Rogers, Mr. W. Scoby, Mr. E. W. Shackle, Mr. Fred Smith, Mr. H. H. Smith, Mr. E. W. Stanyforth, Mr. R. Stratton, Mr. H. Tallent, Mr. George Taylor, Mr. C. W. Tindall, Mr. A. P. Turner, Mr. E. V. V. Wheeler, and Mr. C. W. Wilson.

The PRESIDENT made reference to the grievous calamity which, since the last meeting of the Council, had fallen upon the Royal House of Portugal. Having regard not only to the friendly relationship between this country and Portugal, but to the friendship that existed between the Royal Families of both countries, the Council would, he was sure, desire to place on record their deep sense of sorrow for the death of His Majesty King Carlos and the Crown Prince of Portugal, and to express their respectful sympathy to their Majesties King Edward and Queen Alexandra in the melancholy circumstances which had caused such universal sorrow.

The minutes of the last meeting of the Council held on Wednesday, January 29, 1908, were taken as read and approved.

Fifty-six duly nominated candidates were admitted into the Society as Members under By-law 2.

The report of the Finance Committee having been received and adopted, Mr. ADEANE (Chairman of the Committee) explained the various items of the Balance Sheet and Statement of Ordinary Receipts and Expenditure for the year 1907, and presented the Committee's Estimates of Receipts and Expenditure for the ensuing year, which were approved.

On the motion of the Hon. CECIL T. PARKER, seconded by Mr. RICHARD STRATTON, it was unanimously resolved that a contribution of 25*l.* be made to the Tuberculosis (Animals) Committee towards the expenses of the investigations of that Committee.

The Council then proceeded to consider the suggestion made by Mr. HAMLYN at the Annual General Meeting, which had been postponed from the last Meeting of the Council, held on January 29 :-—"That the Council should consider the advisability of approaching the Board of Agriculture to request them to take measures to compel butchers selling foreign meat to exhibit a notice to that effect." Mr. HAMLYN explained his reasons for having brought the subject forward, and made a statement in support of his suggestion. After observations by Mr. BOWEN-JONES, however, the PRESIDENT expressed the opinion that the further discussion of the matter would be contrary to the Society's Charter. Mr. HAMLYN replied that he was entirely in the hands of the Meeting, and, in withdrawing his suggestion, said he had no doubt the question would be brought forward in some of the other Societies.

The EARL OF NORTHBROOK (Chairman of the Veterinary Committee) having referred to the recent outbreaks of Foot-and-Mouth Disease in Scotland, a discussion ensued, in which the Right Hon. AILWYN E. FELLOWES, Mr. C. MIDDLETON, Mr. S. N. BANKART, Lord NORTHBROOK and Mr. G. G. REA took part. Eventually, it was unanimously resolved, on the motion of Mr. FELLOWES, seconded by Mr. BANKART, that a letter be written to the Board of Agriculture expressing the hope that, in view of the outbreaks of Foot-and-Mouth Disease, the Board might see their way (1) to prohibit the movement into England of animals from Scotland, and (2) to extend the existing prohibition of the importation of Hay and Straw in the form of food and litter, to imported Hay and Straw used in packing and for packing purposes.

On the motion of Sir JOHN THOROLD (Chairman of the Committee of Selection), seconded by Mr. ADEANE, Dr. William Saunders, C.M.G., F.R.S.C., F.L.S., Director of Experimental Farms, Department of Agriculture, Ottawa, Canada, was unanimously elected an Honorary Member of the Society.

Sir GILBERT GREENALL (Honorary Director) reported the completion of the Ploughing Competitions promoted by the proprietors of the *Newcastle Chronicle* in the counties of Northumberland and Durham. The final trials for the two championships took place on February 7, at Hipsburn, near Alnmouth, on the farm of Sir Henry Scott, to whom the Society was greatly indebted, not only for providing the land on which the trials took place, but for the kind hospitality he dispensed on that occasion. Amongst those present on the 7th instant had been Mr. Cavendish (their President), the Duke of Northumberland, and the Lord Mayor of Newcastle, in addition to whom there were upwards of 5,000 spectators. He (Sir Gilbert) thought the Council would wish that their best thanks should be conveyed to the proprietors of the *Newcastle Chronicle* for their generosity in providing the prizes and expenses of the trials, and also to Mr. James Mowitt, under whose management the competitions had been so satisfactorily carried out.

A vote of thanks was accordingly unanimously passed by the Council, on the motion of the PRESIDENT, seconded by Sir GILBERT GREENALL.

Other business having been transacted, the Council adjourned until Wednesday, April 1, 1908, at 11 a.m.

WEDNESDAY, APRIL 1, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., Mr. F. S. W.

CORNWALLIS (Trustee) in the Chair :—

Present :—Trustees.—The Earl of Coventry, Lord Middleton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutehley, Mr. J. Marshall Dugdale, the Rt. Hon. A. E. Fellowes, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. George Adams, Mr. Charles R. W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Broeklehurst, Mr. Richardson Carr, Sir H. F. de Trafford, Bart, Mr. J. T. C. Eadie, Mr. Howard Frank, Mr. J. W. Glover, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. Ernest A. Hamlyn, Mr. Joseph Harris, Mr. W. Harrison, Mr. R. W. Hobbs, Mr. W. F. Ingram, Sir Charles V. Knightley, Bart., Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. R. G. Patterson, Mr. C. M. S. Pilkington, Mr. H. F. Plumptre, Mr. F. Reynard, Mr. John Rowell, Mr. E. W. Shackle, Mr. H. H. Smith, Mr. H. Tallent, Mr. George Taylor, Mr. John Thornton, Mr. C. W. Tindall, Mr. E. V. V. Wheeler, and Mr. C. W. Wilson.

In the unavoidable absence of the President (the Duke of Devonshire), Mr. F. S. W. Cornwallis (Trustee) was called to the chair, on the motion of the Right Hon. AILWYN E. FELLOWES.

Mr. CORNWALLIS said that they were all but too well acquainted with the sad reason which prevented their President taking the Chair, and in taking his place that day he knew that he might express in the name of the Council their deepest sympathy with the President and the relatives of the late Duke of Devonshire, whose loss from the councils of the nation was universally felt to be a great public misfortune. Their Society was, like so many other public bodies, under a great obligation to the late Duke; he was elected a Governor in 1880, and filled the office of President in the year 1894, when the Society visited Cambridge, of whose university he was Chancellor. Curiously, the late Duke's father was President when the Society visited the sister University City of Oxford in 1870. It would also be fresh in the minds of Members of the Council how great an interest he showed in the Society's visit to Derby in 1906, and how much he contributed to the success of that visit by his powerful influence as Lord Lieutenant of the County and President of the Local Committee. It was a matter of great satisfaction to the Council to know that that interest in the welfare of the Society was so conspicuously maintained by their present President, who was the third of his family to fill the Presidential chair, and while extending to him their deepest sympathy, they wished him health and strength to perform the responsible duties cast upon him by the death of that distinguished statesman, whose loss the whole nation so deeply deplored.

A letter had been received from Lord Knollys, stating that he was commanded by T.M. the King and Queen to convey to the Council an expression of Their Majesties' appreciation of the sympathy which had been expressed for them on the occasion of the assassination of King Carlos and the Crown Prince of Portugal.

The Minutes of the last meeting of the Council held on February 26, 1908, were taken as read and approved.

Mr. C. E. Goech, of Wyvenhoe Park, Colchester, was elected a Governor, and 132 duly nominated candidates were admitted into the Society as Members under By-law 2.

The JOURNAL and EDUCATION Committee's Report having been received and adopted, it was unanimously resolved, on the motion of Sir JOHN THOROLD, seconded by Mr. ADEANE, that the best thanks of the Society be conveyed to Major Craigie for the services he had rendered to the Society as editor of Vol. 68 of the Journal.

SIR GILBERT GREENALL reported that the Farm Prizes Committee had considered a report submitted by the Judges as to their first visit to the farms entered for competition, from which it appeared that in consequence of the severity of the weather the time occupied on the journey had been considerably longer than had been anticipated. Various questions as to eligibility of certain farms had been discussed, and instructions given to the Secretary for their settlement.

SIR JOHN THOROLD reported the receipt of a letter from Dr. William Saunders, C.M.G., expressing his high appreciation of the honour conferred upon him by the Council in electing him an Honorary Member of the Society. On the motion of Sir JOHN THOROLD, seconded by Mr. BOWEN-JONES, the Seal of the Society was affixed to the Diploma certifying the election of Dr. Saunders as an Honorary Member of the Society.

Other business having been transacted, the Council adjourned until Wednesday, May 6, 1908, at 11 a.m.

WEDNESDAY, MAY 6, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Duke of DEVONSHIRE (President) in the Chair:—

Present:—Trustees.—Mr. F. S. W. Cornwallis, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutehley, Mr. J. Marshall Dugdale, the Earl of Feversham, the Earl of Jersey, G.C.B., the Earl of Northbrook, the Hon. C. T. Parker.

Other Members of the Council.—Mr. George Adams, Mr. Charles R.W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Broeklehurst, Mr. Richardson Carr, Sir Richard P. Cooper, Bart., Sir H. F. de Trafford, Bart., Mr. J. T. C. Eadie, Mr. J. Falconer, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. Joseph Harris, Mr. J. H. Hine, Mr. Arthur Hiscock, Mr. John Howard Howard, Mr. W. F. Ingram, Mr. W. A. May, Mr. C. Middleton, Mr. R. G. Patterson, Mr. C. M. S. Pilkington, Mr. F. Reynard, Mr. C. C. Rogers, Mr. W. Seoby, Mr. E. W. Shackle, Mr. Fred Smith, Mr. H. H. Smith, Mr. E. W. Stanforth, Mr. R. Stratton, Mr. George Taylor, Mr. John Thornton, Mr. E. V. V. Wheeler, and Mr. C. W. Wilson.

Mr. J. M. Oubridge was also present, representing the Newcastle Local Committee.

Before proceeding with the business of the day, the PRESIDENT said he would like to have the opportunity of expressing his most genuine appreciation of the kind observations made by Mr. Cornwallis on behalf of the Council at their last meeting with reference to the death of his uncle, who, he knew, had always taken the greatest interest in the Society. He desired to thank the Council on behalf of himself and his family for the kind references to the great loss they had sustained.

The minutes of the last meeting of the Council, held on April 1, 1908, were taken as read and approved.

Mr. C. G. Assheton-Smith, of Vaynol, Bangor, and Mr. F. Berkeley Matthews, of Lartington Hall, Darlington, were elected Governors, and 66 duly nominated candidates were admitted into the Society as members under By-Law 2.

The Report of the Finance Committee was received and adopted, after observations by Mr. WHEELER with reference to the proposed offer of a prize for Hop Drying Plants in 1909.

The Reports of the General Newcastle and Journal and Education Committees were received and adopted; and on the motion of Sir JOHN THOROLD, seconded by Mr. ADEANE, it was unanimously resolved that "Mr. Kenneth J. J. Mackenzie, of the Department of Agriculture of the Cambridge University, be appointed as Editor of the Journal for the ensuing year."

The Report of the Committee of Selection was received and adopted, including a recommendation that the name of the Earl of Jersey be suggested to the Annual General Meeting of Members in December next, as President of the Society for the year 1909.

The SECRETARY announced that the Trustees of the "Queen Victoria Gifts" Fund had decided to make a grant to the Royal Agricultural Benevolent Institution of 140*l.* for the year 1908, to be distributed as fourteen grants of 10*l.* each to the five male candidates, five married couples, and four female candidates who polled the largest number of votes in their class, and who would not this year receive grants from any other fund in connection with the Royal Agricultural Benevolent Institution.

Other business having been transacted, the Council adjourned until Wednesday, June 3 (Derby Day), 1908, at 10.30 a.m.

WEDNESDAY, JUNE 3, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Duke of DEVONSHIRE (President) in the Chair:—

Present:—*Trustee.*—Sir John H. Thorold, Bart.

Vice-Presidents.—H.R.H. Prince Christian, K.G., Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Rt. Hon. A. E. Fellowes, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. George Adams, Mr. Charles R. W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Brocklehurst, Mr. Richardson Carr, Sir Richard P. Cooper, Bart., Sir H. F. de Trafford, Bart., Mr. J. Falconer, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. E. A. Hamlyn, Mr. Joseph Harris, Mr. W. Harrison, Mr. Arthur Hiscock, Mr. R. W. Hobbs, Mr. George Lobb, Mr. Ernest Mathews, Mr. T. S. Minton, Mr. W. Nocton, M. R. G. Patterson, Mr. G. G. Rea, Mr. F. Reynard, Mr. C. C. Rogers, Mr. E. W. Shackle, Mr. E. W. Stanforth, Mr. H. Tallent, Mr. George Taylor, Mr. C. W. Tindall, and Mr. C. W. Wilson.

The following Members of the Newcastle Local Committee were also present:—Mr. William Chrystal and Mr. Johnstone Wallace.

The minutes of the last meeting of the Council, held on May 6, 1908, were taken as read and approved.

Mr. Ernest C. Bingham, of Yeoveney Lodge, Staines, Middlesex, was elected a Governor, and ninety-six duly nominated candidates were admitted into the Society as Members under By-law 2.

On the motion of Mr. ADEANE, it was resolved: "That the Secretary be empowered to issue to any duly nominated candidate for membership of the Society, on receipt of the annual subscription, a special ticket admitting the candidate to the same privileges as a Member during the forthcoming Show at Newcastle-on-Tyne; the formal election of such candidate to be considered by the Council at their next Ordinary Meeting."

Mr. BOWEN-JONES, in moving the adoption of the Report of the Chemical Committee, said that it would be within the recollection of the Council that at the last meeting one of the cases in the Consulting Chemist's Report presented on that occasion had been referred back to the Committee for further consideration. Since then the Society's Solicitors had been consulted, and as the result it had been decided to recommend that the name of the vendors of the material in question should be published. The Committee were of opinion that the time had arrived when more drastic action should be taken by the Society. It often transpired that when a Member found out from the Consulting Chemist's analysis that a material was not worth the money paid for it, he made a bargain with the vendors, and generally informed the Committee that he thought those vendors were honourable people who had made a mistake and would not do it again. The Committee were of opinion

that they should publish the names of vendors in such cases, as by doing so they would be benefiting the agricultural interest. He might say with regard to action by the Board of Agriculture under the Fertilisers and Feeding Stuffs Act, that in a great many cases it was impossible to proceed because farmers had not taken their samples within the limit of ten days required by the Act. Consequently, it was all the more incumbent upon the Society to take up these matters.

The Report of the Chemical and Woburn Committee was received and adopted.

The PRESIDENT said Members of the Council would remember that at a previous meeting a hearty invitation to visit the Show at Newcastle had been accorded to the Hungarian Agriculturists who were hoping shortly to make a tour in this country. The Society's invitation had been most cordially accepted by the Secretary of the National Agricultural Society of Hungary, and the party were proposing to arrive in London on Monday, June 15, when they would be received by the President of the Board of Agriculture. They had expressed a desire to be received at the Society's House at 4 p.m. on the same day, and he need hardly say that it would afford him the greatest pleasure to be present to receive their distinguished visitors. He hoped that as many Members of Council as could make it convenient would be present on that occasion.

Other business having been transacted, the Council adjourned until Wednesday, July 1, 1908 (in the Newcastle Showyard).

Reception of Representatives of National Agricultural Society of Hungary.

MONDAY, JUNE 15, 1908.

The party of Hungarian agriculturists, numbering about fifty, who, at the invitation of the Council, visited the Society's Show at Newcastle, arrived in London on the morning of June 15, and were received at the House of Lords during the afternoon by Earl Carrington, K.G., President of the Board of Agriculture; and later a visit was paid to the offices of the Society at 16 Bedford Square, where the party were received by the DUKE of DEVONSHIRE (President) and other Members of the Council.

The DUKE of DEVONSHIRE said that it was with the greatest pleasure that he was there that day—at the request of his colleagues on the Council—to offer those gentlemen of the National Agricultural Society of Hungary a very cordial welcome. It had always been the endeavour of their Society to foster international relations for the advancement of the common cause of agriculture, and he hoped that they would all take back with them pleasant recollections of their visit. A programme had been prepared for a tour in England and Scotland during the next two or three weeks, which he trusted would give their visitors an opportunity of seeing characteristic examples of all the various branches of British agriculture which could not fail to be of the greatest interest to them. The Council were very pleased that the party were proposing to be present at their English National Agricultural Show at Newcastle, where it was hoped they would be able to see some of the finest specimens of live stock, as well as a very comprehensive collection of the implements in general use by the agriculturists of this country.

COUNT LASZLO ESTERHAZY, as Chairman of the party, expressed their appreciation of the compliment paid to them by the Council of the Royal Agricultural Society, who had given them such a cordial invitation to this country.

Mr. ALOIS PAIKERT (Custos of the Agricultural Museum, Budapest) drew attention to the fact that the two National Agricultural Societies of England and Hungary were established at almost the same time. The Hungarian Society was formed in the year 1831, and its objects were identical with those of the Royal Agricultural Society of England. He trusted that the cordial meeting that day between the representatives of the two Societies would result in their co-operating in future to achieve those objects.

WEDNESDAY, JULY 1, 1908.

At a Monthly Council held in the large tent in the Newcastle Showyard, the Duke of DEVONSHIRE (President) in the Chair :—

Present:—*Trustees*.—Mr. F. S. W. Cornwallis, the Earl of Coventry, Lord Moreton.

Vice-Presidents.—Mr. J. Bowen-Jones, the Earl of Jersey, G.C.B., G.C.M.G., the Earl of Northbrook, the Hon. Cecil T. Parker.

Other Members of the Council.—Mr. C. R. W. Adeane, Mr. T. L. Aveling, Mr. S. N. Bankart, Mr. H. Dent Brocklehurst, Mr. T. A. Buttar, Mr. R. G. Carden, Mr. Richardson Carr, Sir Richard P. Cooper, Bart., Mr. John T. C. Eadie, Mr. James Falconer, Mr. James W. Glover, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. Ernest A. Hamlyn, Mr. Joseph Harris, Mr. William Harrison, Mr. J. H. Hine, Mr. R. W. Hobbs, Mr. J. Howard Howard, Mr. George Lobb, Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. T. S. Minton, Mr. C. M. S. Pilkington, Mr. G. G. Rea, Mr. F. Reynard, Mr. C. C. Rogers, Mr. John Rowell, Mr. E. W. Stanyforth, Mr. John Thornton, Mr. C. W. Tindall, and Mr. C. W. Wilson.

The minutes of the last meeting of the Council, held on June 3, 1908, were taken as read and approved.

The PRESIDENT said it was with feelings of very sincere regret that he had to announce officially the death of one of their Trustees, the Earl of Derby, who had been for a number of years so closely connected with the Society. Lord Derby had been elected a Member in 1874, a Governor in 1894, and joined the Council in the year 1895, since which time he had been successively Vice-President, in 1900, and Trustee in 1901. It would be within the recollection not only of the Council, but of every Member, how well Lord Derby served the Society in the office of President in the year 1904, in succession to His Royal Highness The Prince of Wales.

On the motion of Mr. ADEANE (Chairman of the Finance Committee), accounts amounting in all to 1,794*l.* 16*s.* 9*d.* were passed for payment.

The Report of a Special Meeting of the Committee of Selection held on June 25, 1908, at 16 Bedford Square, was received and adopted; and, on the motion of Mr. CORNWALLIS, seconded by Mr. ADEANE, the Duke of Devonshire was unanimously elected a Trustee of the Society in the room of the Earl of Derby, deceased. To fill the vacancy thus created, the Duke of Northumberland was, on the motion of the PRESIDENT, seconded by the Earl of COVENTRY, unanimously appointed a Vice-President of the Society.

On the motion of Lord MORETON, seconded by Mr. PILKINGTON, the following were appointed a Special Committee "to consider certain questions arising in connection with some of the live stock exhibited at the Newcastle Show":—Sir Gilbert Greenall, Mr. Adeane, Mr. Harris, and Mr. Reynard.

Other business having been transacted, the Council adjourned until Wednesday, July 29, 1908, at 16 Bedford Square. It was, however, agreed that a Special Council Meeting should be held towards the end of the Show for the purpose of passing votes of thanks to various individuals, firms, and companies who had rendered assistance to the Society in connection with the Exhibition.

Proceedings at General Meeting of Governors and Members,

HELD IN THE

LARGE TENT IN THE SHOWYARD AT NEWCASTLE-ON-TYNE,

THURSDAY, JULY 2, 1908.

THE DUKE OF DEVONSHIRE (PRESIDENT) IN THE CHAIR.

A very large number of Governors and Members were present in the tent, and amongst those on the platform were the Earl of Onslow, Lord Allendale, the Right Hon. Ailwyn E. Fellowes, Sir Richard Cooper Bart., Sir Walter Gilbey, Bart., Sir Gilbert Greenall, Bart., Mr. C. R. W. Adeane, Mr. J. Bowen-Jones, Mr. F. S. W. Cornwallis, Mr. Percy Crutchley, Mr. J. Marshall Dugdale, Mr. R. M. Greaves, Mr. Ernest A. Hamlyn, Mr. Wm. Harrison, Mr. R. W. Hobbs, Mr. J. Howard Howard, Mr. W. A. May, Mr. Christopher Middleton, Mr. T. Horrocks Miller, Mr. C. M. S. Pilkington, Mr. H. F. Plumptre, Mr. G. G. Rea, Mr. Frederick Reynard, Mr. John Rowell, Mr. Fred. Smith, Mr. E. W. Stanyforth, Mr. C. W. Tindall, Mr. C. W. Wilson, &c., &c. The Lord Mayor of Newcastle (Mr. W. J. Sanderson) and Mr. J. J. Gillespie were also present representing the Local Committee.

President's Opening Remarks.

The PRESIDENT, at the commencement of the proceedings, said it would be within the recollection of many of those present that there had been in connection with the Newcastle Show a novel and very interesting feature in the Ploughing Competitions, which had been carried out mainly through the instrumentality of the proprietors of the *Newcastle Chronicle*. The Competitions took place over the counties of Northumberland and Durham, the final trial being held on land farmed by Sir Henry Scott at Hipsburn. His Grace had had the pleasure of witnessing this last competition, and the large attendance on that occasion was, he thought, ample justification and ample proof of how satisfactory the Competition had been. He wished, on behalf of the Council, to tender their most sincere thanks to those who originated and carried through those very successful competitions. They had proved most attractive in themselves, and he believed they had been of the most useful and practical character. He had had an opportunity on the occasion of the Final Competition of saying a few words to the successful competitors, and he had promised at the time to distribute, on behalf of the Society, the cups, prizes, and certificates. This he was now in a position to do.

The SECRETARY then read out the names of the winners, who stepped up to the platform and received their prizes. The full list will be found on pages cxxiv and cxxv.

After the presentation of these prizes, &c.,

The PRESIDENT, continuing his remarks, said it was a very great pleasure to him to see so many of them there under such exceptionally favourable—he might say ideal—conditions. He was sure they would agree with him that the Show was one of the finest and most comprehensive exhibitions that had been held by the Society during the seventy years of its existence. The visit of Their Royal Highnesses the Prince and Princess of Wales on the previous day had been a source of great satisfaction, not only to the members of the Society, but to the inhabitants of Newcastle and Northumberland. He had the authority of Their Royal Highnesses to say how very pleased they were with the Show and with their reception there. He was confident that the inhabitants, not only of Newcastle, but of Durham and Northumberland, would appreciate the kindness of Their Royal Highnesses in taking that long journey,

especially as His Royal Highness was so busy, having, as they all knew, to make an important journey to Canada within a very short time. As at their last two Shows, the Horticultural Exhibition held a very prominent position in the Showyard, and this department reflected the greatest credit upon all those responsible for its organisation. Another section of considerable interest was the Agricultural Education and Forestry Exhibition, particularly the exhibits kindly sent by the Duke of Northumberland and their ex-President, Lord Yarborough, whose health, they would all be glad to know, had now much improved, and they looked forward, at no distant date, to have the benefit of his Lordship's assistance and advice again. His Grace was sure that they would all agree with him that they owed a great debt of gratitude to their Honorary Director, Sir Gilbert Greenall—(hear, hear)—who had made such admirable arrangements, and brought to bear his splendid powers of organisation, and the energy with which he saw that the minutest details were carried out. The great success of the Show was mainly due to Sir Gilbert, backed up as he was by a very able staff. He was not going to detain them with a long speech, but it might be of interest to them to know that the Reserve Fund now amounted to upwards of 22,000*l*. They had every reason to hope that by the end of the year it would be very considerably increased. He did not wish to make too much of the satisfactory character of their financial position, because it must be abundantly clear that they would not always be in a position to receive the hospitality of great centres of industry, like Newcastle. In fact, they must all agree that it was the work of that great Society to go to every portion of the country, where their welcome would be equally warm, although they might not have such large attendances. He hoped, after that Show, the Society would be in a strong financial position, and that they would be able to continue the useful work which he thought the Society was doing in all parts of the country. The membership of the Society was at present approximately 10,000, but he hoped—without being at all avaricious—that that number might be considerably increased. The advantages which accrued to membership of the Society were so well known, and the demand upon their purses was so very slender, that he thought it was an extremely good investment for anyone to become a member of that community. Every member could do an immense amount by persuading his friends to join, and by pointing out the useful work now carried on by the Society. He hoped now, when they had had three Exhibitions such as they had had since they started their new system, and were in a strong financial position, that they would be able to induce many more members to join. He was quite sure it would repay them for doing so. They would all have seen the figures for the attendance both on the first and second days, and also up to 11 o'clock that day. It was most encouraging, and most satisfactory. He ventured to say that he did not particularly appreciate what he might call record-breaking, but, to use the words he had adopted on the previous night at the Lord Mayor's banquet, they had established a very salutary precedent, and he hoped it was one which would be carried out in the future, and, if possible, surpassed.

Farm Prize Competitions.

The SECRETARY then announced the awards made by the Judges in the Farm Prize Competitions, which will be found on pages cxxii and cxxiii.

Thanks to Lord Mayor and Corporation.

Sir GILBERT GREENALL moved: "That the best thanks of the Society are due and are hereby tendered to the Lord Mayor and Corporation of Newcastle for their cordial reception of the Society." It was with very great pleasure he proposed that resolution. He did not suppose any member of the Society had been brought into touch with the Local Committee so much as he had as Honorary Director of the Show. He could assure them that from the first time he came to Newcastle as their representative the greatest kindness and consideration had been shown to the Society by the Lord Mayor and everybody

connected with the Corporation. He could not express the great personal interest taken by the Lord Mayor and the other members of the Corporation. He did not think they ought to leave out the name of the ex-Mayor (Councillor J. M. Oubridge), during whose term of office and through whose instrumentality it was that the Society had been invited to hold the Show at Newcastle this year. He thought the success of the Show was assured, and they owed to the Lord Mayor and to the members of the Corporation a very deep debt of gratitude. (Cheers.) Therefore it was with great pleasure he moved the resolution.

Mr. E. W. STANYFORTH seconded the motion, which was carried unanimously.

The LORD MAYOR of NEWCASTLE, on behalf of the Corporation and himself, thanked the meeting sincerely for its kind vote of thanks. From the first day when it was mooted that the "Royal" Show should be asked to visit Newcastle the idea met with the most sincere approval and had been carried out with the greatest enthusiasm. He thought they could safely say that the Council were wise in accepting the invitation and coming to that city for the fourth time. It was a record Show. (Hear, hear.) Four times there was a record also, as Newcastle was the only city that the Show had visited that number of times. It had given intense pleasure to himself and his colleagues to work for the Show, and they were amply rewarded by its immense success.

Thanks to Local Committee.

The Earl of ONSLOW, in moving a resolution tendering the best thanks of the Society to the Newcastle Local Committee for their exertions in promoting the success of the Show, said it was a good axiom in matters of government to leave as much as they could to the man on the spot. That had been the idea which had actuated the Society in getting those who knew the surroundings and local circumstances to assist in every way possible to make the Show a success. A testimony that this had been a successful policy was to be seen in the attendance there that day and on the previous days. He thought the thanks of the Society were largely due to the Chairman of the Local Committee—the Duke of Northumberland. Every North-countryman knew that when there was anything that interested, or was for the welfare of the North-country, the Duke of Northumberland was always foremost. It was the hospitality his Grace had extended to the Prince and Princess of Wales which had enabled Their Royal Highnesses to visit the Show not only on one but on two days.

Mr. PERCY CRUTCHLEY seconded the resolution proposed by Lord Onslow, which was unanimously adopted.

Mr. J. J. GILLESPIE (Treasurer of the Local Committee), in responding, said it had been a very great pleasure to the Local Committee to work in the way they had done to make the Show a success. The counties of Northumberland and Durham and the city of Newcastle had almost vied with each other with their subscriptions to the local fund. He was very pleased to say that he had had a communication that morning from a gentleman, identified with the county of Northumberland and with their city, who had said to him: "I see you want 7,300*l.* to complete your fund. You have received 7,170*l.* I shall be very pleased to give you the difference." He could not mention the name of the gentleman, he was not at liberty to do so then, but it would be divulged in the course of a few days.

Thanks to North-Eastern Railway.

Mr. R. M. GREAVES moved: "That the best thanks of the Society be tendered to the North-Eastern Railway Company for the facilities afforded by that company in connection with the Show." As a Steward of the Implement Yard, he had had experience of the very excellent way in which they had assisted the Society in so promptly removing empties from the yard. He hoped that the public had noticed that, when the Show was first opened, there was

not an empty case in the yard. This was due to the admirable way in which the North-Eastern Railway had carried out their work.

Mr. JOHN ROWELL (Steward of Horses) seconded, and the resolution was carried.

Remarks of Members.

The PRESIDENT having, in accordance with the usual custom, asked if any Governor or Member had any remark to make or suggestion to offer for the consideration of the Council,

A MEMBER caused considerable laughter by expressing the hope that the Society would come oftener—say once in ten years—to Northumberland, instead of “pottering about Derby and those places.”

Thanks to the Chairman.

Mr. F. S. W. CORNWALLIS said before they parted that day there was one resolution which he had the honour to propose, and which he was confident would meet with universal acceptance. It was a vote of thanks to the President for his services in the chair. They all knew that the office of President was no sinecure, and that it entailed a large amount of work on the holder. They were extremely grateful to his Grace for the way in which he had discharged the duties of that office. He was the third of his name who had occupied the post of President of that great Society. He hoped that the interest which he and his predecessors had shown in the Society would be maintained, and they all wished him long life, health, and happiness to discharge the high office and important duties which fell upon him.

Mr. JAMES HORNSBY having seconded the motion, it was put to the meeting and carried amidst cheers.

The Duke of DEVONSHIRE, in responding, thanked them sincerely for the kind resolution which they had passed. He differed with Mr. Cornwallis when he said that the duties of the President were of an extremely onerous character. Mr. Cornwallis might have been looking back to the time when he occupied that distinguished position; for he took the Presidency at a critical period in the history of the Society, and it was largely due to the work he had rendered that they were now in such a fortunate position. (Hear, hear.) The work he did then was still felt and appreciated by those who had followed him in the Presidency. The work of the President now was extremely easy, as everything was so well arranged and managed by the Honorary Director and the permanent staff. His Grace was very glad to occupy the position. It had been one of his greatest ambitions that he should succeed where his predecessors had succeeded so well. He had only one more observation to make, and that was that it would be a matter of satisfaction to them to learn that the Duke of Northumberland had accepted the office of Vice-President of the Society, to which the Council had elected him on the previous day. That was a mark of their appreciation of the work he had rendered to the Society. He hoped it would be taken also as a compliment, and as an expression of their good feeling and thanks for what had been done by the Duke of Northumberland and by the Committee he represented.

The meeting then terminated.

SATURDAY, JULY 4, 1908.

At a Special Meeting of the Council, held in the Showyard, at Newcastle-on-Tyne, the Duke of DEVONSHIRE (President) in the Chair:—

On the motion of Sir GILBERT GREENALL, Bart. (Honorary Director), seconded by Sir RICHARD P. COOPER, Bart. (Steward of Finance), it was unanimously resolved: “That the best thanks of the Society are due, and are hereby tendered to:

- (a) The Freemen of Newcastle for their kindness in placing at the Society's disposal a portion of the Town Moor as a site for the Show.

- (b) The Officials of the General Post Office for the efficient postal and telegraphic arrangements.
 - (c) The Newcastle Brigade of the St. John's Ambulance Association for the efficient Ambulance arrangements, under the charge of Colonel Gibbon.
 - (d) The Officials of Messrs. Barclay & Company's Bank, Newcastle, for the efficient assistance rendered by them.
 - (e) Messrs. Merryweather & Sons, Ltd., for the provision of Fire Engines, and for the efficient arrangements in connection with the Fire Station in the Showyard.
 - (f) Messrs. Robson & Sons, Ltd., for the loan of Furniture and Decorations for the Royal Pavilion.
 - (g) Messrs. Wm. Fell & Co. (Hexham), Ltd., for providing the Floral Decorations near the Pavilions, &c.
 - (h) Messrs. Marshall, Sons & Co., Ltd., for the loan of a Steam Engine for supplying Motive Power to the Dairy.
 - (i) Mr. G. Elphick, M.R.C.V.S., for services rendered by him as one of the Veterinary Inspectors, as a Judge of Horse-shoeing, and for assistance in other matters.
 - (j) Mr. Stephen Fairbairn, for the arrangements made by him in connection with the Trials of Manure Distributors.
 - (k) The Great Northern and North British Railway Companies for the facilities afforded by them in connection with the Show."
- (A special vote of thanks to the North Eastern Railway Company was passed at the General Meeting held in the Showyard.)

Letters of thanks were also ordered to be addressed to various individuals and firms for assistance rendered in connection with the Show.

On the motion of the PRESIDENT, seconded by Mr. FREDERICK REYNARD, cordial votes of thanks were passed to Mr. George Marshall, to the Royal English Arboricultural Society, and to all the Exhibitors in the Agricultural Education, and Forestry Exhibition, which proved so successful and interesting a feature in the Showyard.

On the motion of Sir GILBERT GREENALL, seconded by Sir RICHARD COOPER, a letter was ordered to be addressed to the Chief Commissioner of Metropolitan Police conveying the appreciation of the Council of the very efficient services rendered by the Detachment of Metropolitan Police on duty in the Showyard. Letters of thanks were also ordered to be sent to the Chief Constables of the Newcastle City Police and the Northumberland County Police.

The Secretary laid upon the table a formal certificate by Mr. John Malcolm, F.R.C.V.S. (the Society's Chief Veterinary Inspector), to the effect that no case or suspected case of contagious or infectious disease had occurred amongst the animals exhibited at the Show.

A telegram was read from Count Esterhazy expressing the thanks of the party of Hungarian Agriculturists for the arrangements made in connection with their visit to this country.

WEDNESDAY, JULY 29, 1908.

At a Monthly Council, held on Wednesday, July 29, 1908, at 16 Bedford Square, W.C., the Duke of DEVONSHIRE (President) in the Chair :—

Present :—Trustees.—Mr. F. S. W. Cornwallis, Lord Moreton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, Mr. J. Marshall Dugdale, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. T. L. Aveling, Mr. S. N. Bankart, Mr. H. Dent Brocklehurst, Sir Richard P. Cooper, Bart., Mr. Henry Dudding, Mr. J. Falconer, Mr. Howard Frank, Mr. R. M. Greaves, Mr. Joseph Harris, Mr. R. W. Hobbs, Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. R. G. Patterson, Mr. C. M. S. Pilkington, Mr. F. Reynard, Mr. E. W. Shackle, Mr. Fred Smith, Mr. H. H. Smith, Mr. E. W. Stanyforth, Mr. R. Stratton, Mr. H. Tallent, Mr. George Taylor, Mr. John Thoruton, and Mr. C. W. Wilson.

Sir Gilbert Grencall (Honorary Director) and Mr. Adeane (Chairman of the Finance Committee) were unable to be present at the meeting, as they were keeping an appointment with the Lord Mayor of Liverpool, with reference to an invitation to be extended to the Society to hold the Show at Liverpool in the year 1910.

The minutes of the meetings of the Council held in the Showyard at Newcastle-on-Tyne on July 1 and 4, 1908, were taken as read and approved.

Mr. John Henry Maden, of Rockcliffe House, Bacup, Lancs.; Mr. Almeric Paget, of Brandon Park, Brandon, Suffolk; and Mr. Herbert Straker, of Hartforth Grange, Richmond, Yorks, were elected as Governors, and sixty-six duly nominated candidates were admitted into the Society as Members under By-law 2.

Before the presentation of the several Committees' reports, the PRESIDENT expressed the great pleasure he thought they would all feel at the unprecedented results of the recent Show at Newcastle. It was not possible at that early stage to give actual figures, but he thought he might safely say that the profit on the Newcastle Meeting would be larger than at any previous Show of the Society. He understood that two representatives of the Newcastle Local Committee were present—Mr. Johnstone Wallace and Mr. Gillespie (Treasurer of the Local Fund)—and, without any formal resolution, he hoped they would convey to their colleagues at Newcastle the sincere thanks of the Council, as it was largely due to the efforts of the Local Committee that they had achieved such excellent results.

The Report of the Finance Committee was received and adopted, and, on the motion of Sir JOHN THOROLD, seconded by Mr. PERCY CRUTCHLEY, it was resolved: "That, in order to facilitate the winding up of the accounts for the Newcastle Show as early as possible, authority be given for the issue, during the recess, of orders upon the Society's bankers for the payment of accounts connected with the Show."

The Report of the Veterinary Committee was received and adopted, and, on the motion of the Earl of NORTHBROOK, seconded by Mr. CORNWALLIS, the following resolution was unanimously passed and ordered to be sent to the Board of Agriculture:—

"That in view of the renewed agitation for the removal of the restrictions upon the importation into this country of live animals from abroad, the Council desire to express their appreciation of the attitude adopted by the Board of Agriculture, and to impress upon that Board the grave risk to the flocks and herds of this country that would be incurred should the restrictions at present in force be removed."

The Report of the Stock Prizes Committee having been received and adopted, Mr. CORNWALLIS moved, Sir RICHARD COOPER seconded, and it was unanimously resolved:—"That the best thanks of the Society are due and are hereby tendered to Mr. Frederick Reynard for the valuable services he has rendered to the Society in acting as one of the Judges in the Competition for Plans of Farm Buildings."

Authority was given for the affixing of the Society's seal to the agreement with regard to the holding of the Society's Show of next year at Gloucester, on portions of the meadows known as Castle Meads, Oxlease, and Portham, situated partly in the City and partly in the County of Gloucester.

Other business having been transacted, the Council adjourned, over the autumn recess, until Wednesday, November 4, 1908, at 11 a.m.

WEDNESDAY, NOVEMBER 4, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Duke of DEVONSHIRE (President) in the Chair :—

Present :—*Trustees.*—Mr. F. S. W. Cornwallis, Lord Middleton, Lord Moreton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, Mr. J. Marshall Dugdale, the Hon. C. T. Parker.

Other Members of the Council.—Mr. George Adams, Mr. C. R. W. Adeane, Mr. T. L. Aveling, Mr. S. N. Bankart, Mr. H. Dent Brocklehurst, Mr. T. A. Buttar, Mr. Richardson Carr, Sir H. F. de Trafford, Bart., Mr. Henry Dudding, Mr. J. T. C. Eadie, Mr. J. Falconer, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. E. A. Hamlyn, Mr. Joseph Harris, Mr. J. H. Hine, Mr. R. W. Hobbs, Mr. J. Howard Howard, Mr. W. F. Ingram, Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. H. Miller, Mr. C. M. S. Pilkington, Mr. G. G. Rea, Mr. F. Reynard, Mr. C. C. Rogers, Mr. J. Rowell, Mr. W. Scoby, Mr. Fred Smith, Mr. H. H. Smith, Mr. E. W. Stanyforth, Mr. R. Stratton, Mr. George Taylor, Mr. C. W. Tindall, Mr. A. P. Turner, and Mr. E. V. V. Wheeler.

The Lord Mayor of Newcastle-on-Tyne (Mr. W. J. Sanderson).

The following Members of the Gloucester Local Committee were also present :—Mr. Samuel Aitken, Mr. R. Anderson, Mr. H. W. Bruton, and Lieut.-Colonel J. F. Curtis-Hayward.

The Minutes of the last Meeting of the Council, held at 16 Bedford Square, on Wednesday, July 29, 1908, were taken as read and approved.

The PRESIDENT said that since the last meeting of the Council they would all have heard with regret of the death of their old and much esteemed colleague, Sir Nigel Kingscote. Although, in consequence of failing health, Sir Nigel had felt it necessary two years ago to resign his seat on the Council, his interest in the welfare of the Society had been maintained, as was evidenced by his frequent attendance—as a Governor—at their meetings since his retirement, the last occasion on which he was present being at the Council on July 29 last. It was hardly necessary, his Grace said, for him to explain to that meeting the extent of Sir Nigel's work for the Society, which would be so well known to all of them. He was sure it would be the wish of the Council that he, as President, should convey to Lady Emily Kingscote the expression of the Council's very deep sympathy in the sad bereavement which she had sustained.

The Hon. John H. Ward, of 7 Carlton Gardens, London, S.W., and Mr. Robert Christison, of 5 Lawn Road, Haverstock Hill, N.W., were elected as Governors, and twenty-six duly nominated candidates were admitted into the Society as Members under By-law 2.

The report of the Finance Committee having been received and adopted, Mr. ADEANE stated that, subject to audit, the net profit on the Newcastle Show amounted to about 10,100*l.*, exclusive of the sum of 2,500*l.* allocated from the Ordinary Account to the Show Account. He was sure this result was gratifying to Members of Council and also to the Lord Mayor of Newcastle and all the people of that city who had contributed so much to the satisfactory result. The PRESIDENT having added his tribute to the work done in connection with the Show, the LORD MAYOR OF NEWCASTLE assured the meeting that it was with great pleasure he learnt the result. It was a matter of intense satisfaction, not only to himself, but to all the inhabitants of his city, and he expressed his sincere thanks for the great courtesy and kindness which had been shown to him by Sir Gilbert Greenall and all the officials during the Society's visit.

A report from the Sites Committee was presented and adopted, including a recommendation that the invitation contained in the following letter from the Lord Mayor of Liverpool should be accepted :—

The Town Hall, Liverpool, W.

July 31, 1908.

Dear Sir,—I have the pleasure to inform you that at a meeting of the City Council, held on Wednesday last, the following resolution was unanimously carried, viz. :—

"That the Right Honourable the Lord Mayor be respectfully requested to invite the Royal Agricultural Society of England to hold their Annual Show for 1910 at Liverpool, and that the Parks and Gardens Committee be authorised to place Wavertree Playground at the disposal of the Society for the purpose, and to make such arrangements in connection therewith as may be necessary."

I hope the Council of the Royal Agricultural Society will do Liverpool the honour of accepting this invitation.

Believe me, yours faithfully.

(Signed) R. CATON, Lord Mayor.

The President, Royal Agricultural Society,
16 Bedford Square, London.

On the motion of the PRESIDENT, seconded by Lord MIDDLETON, it was unanimously resolved by the Council: "That the invitation from the City Council of Liverpool, to hold the Show in that city in 1910, be accepted, and that the usual agreement be entered into with the Corporation."

The Report of the General Gloucester Committee was received and adopted, and the date of the Show at Gloucester was fixed as follows:—Tuesday, June 22, to Saturday, June 26, 1909.

The Report of the Journal and Education Committee was received and adopted, and, on the Committee's recommendation, Mr. H. Dent Brocklehurst was appointed as the Society's representative Governor of the Royal Agricultural College, Cirencester, and Mr. J. Marshall Dugdale was re-elected on the Governing Body of the Harper-Adams Foundation.

The Report of the Chemical and Woburn Committee was received and adopted, including a recommendation that the Report of the Consulting Chemist should be published in the Agricultural Press with the names of the vendors of a material sold as pig meal, which, on examination, had been found to contain sawdust and sulphate of lime (gypsum).

[NOTE.—The printers having declined to furnish copies of the usual pamphlet containing the Council "Proceedings," on the ground that certain statements in the Chemical Committee's Report appeared to render them liable to an action at law if such Report were printed by them, it was decided to issue the "Proceedings" omitting the entire Report of the Consulting Chemist.]

The Reports of the Botanical and Zoological, Veterinary, and Stock Prizes Committees were received and adopted, and permission was given to Mr. Reynard (Chairman of the Stock Prizes Committee) to accept further offers of prizes that might be received before the next meeting.

A discussion then ensued with regard to a suggestion made by Lord MORETON that the Society should communicate to other Societies the names of exhibitors disqualified for fraudulent practices in connection with animals exhibited at the Royal Agricultural Society's Show; and, at the suggestion of the PRESIDENT, it was decided to refer the matter to the Stock Prizes Committee for consideration at their next meeting.

Sir Gilbert Greenall was unanimously re-appointed Honorary Director of the Society's Show, and Mr. William Friday, of Gloucester, was appointed Steward of Forage for the Show of 1909.

The following were appointed a Committee to confer with representatives of the Royal Lancashire Agricultural Society on Monday, December 7, with regard to the terms upon which the County Society should forego their Annual Show of 1910 when the Royal Agricultural Society visited Liverpool: The Duke of Devonshire (President), the Earl of Jersey, the Earl of Northbrook, the Right Hon. Ailwyn Fellows, Sir Richard Cooper, Bart., Sir Gilbert Greenall, Bart., Mr. Adcane, Mr. Cornwallis, Mr. Crutchley, Mr. Harrison, and Mr. Miller.

The Report of the Council to the Annual General Meeting of Governors and Members, to be held at the Royal Agricultural Hall, Islington, at 3 p.m. on Wednesday, December 9, was prepared and ordered to be issued.

Other business having been transacted, the Council adjourned until Wednesday, December 9, at 11 a.m.

WEDNESDAY, DECEMBER 9, 1908.

At a Monthly Council, held at 16 Bedford Square, W.C., the Duke of DEVONSHIRE (President) in the Chair :—

Present:—*Trustees.*—Mr. F. S. W. Cornwallis, Lord Middleton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, Mr. J. Marshall Dugdale, the Right Hon. A. E. Fellowes, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. Charles R. W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Brocklehurst, Mr. T. A. Buttar, Mr. R. G. Carden, Mr. Richardson Carr, Sir Richard P. Cooper, Bart., Mr. H. Dudding, Mr. J. T. C. Eadie, Mr. Howard Frank, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. E. A. Hamlyn, Mr. J. Harris, Mr. W. Harrison, Mr. J. H. Hine, Mr. R. W. Hobbs, Mr. J. Howard Howard, Mr. W. F. Ingram, Sir Charles V. Knightley, Bart., Mr. Ernest Mathews, Mr. W. A. May, Mr. C. Middleton, Mr. T. S. Minton, Mr. C. M. S. Pilkington, Mr. H. F. Plumptre, Mr. F. Reynard, Mr. C. C. Rogers, Mr. John Rowell, Mr. W. Scoby, Mr. E. W. Shackle, Mr. Fred Smith, Mr. E. W. Stanyforth, Mr. R. Stratton, Mr. H. Tallent, Mr. George Taylor, Mr. C. W. Tindall, Mr. A. P. Turner, Mr. E. V. V. Wheeler, and Mr. C. W. Wilson.

The following Members of the Gloucester Local Committee were also present :—Mr. S. Aitken and Mr. M. W. Colchester-Wemyss.

The minutes of the last meeting of the Council, held on Wednesday, November 4, 1908, were taken as read and approved.

The Earl of Derby, G.C.V.O., C.B., and Sir Edward Stern were elected Governors, and thirty-four duly nominated candidates were admitted into the Society as Members under By-law 2.

The PRESIDENT, before proceeding with the ordinary business of the meeting, mentioned that he had received a communication expressing Lady Kingscote's thanks for the letter of sympathy he had sent her on behalf of the Council, and saying how much she appreciated what had been said about her husband.

The Council would all have heard with deep regret, the PRESIDENT continued, of the death, at Algiers, on November 28, 1908, of Mr. John Thornton, whose connection with the Society had extended over a very long period. He had been elected a Member in 1869, and became a Member of Council in August, 1905, as one of the representatives of the Division of London. He had served as a Member of the Stock Prizes Committee, and, as they all knew, had acted as auctioneer of cattle in the Society's Showyard each year since the inauguration of the auction sales in 1903. He was sure that not only the Members of the Council, but every one connected with agriculture in any form whatsoever, felt what a very great loss they had sustained by the death of Mr. Thornton.

The PRESIDENT added that Members of Council would also regret to learn of the death of Mr. George H. Sanday, another old Member of the Society. He became a Member in 1868, was elected to the Council in the year 1874, and was made a Vice-President in 1902. He had acted on many occasions as a Steward at the Annual Shows, and had served for a considerable period on the Stock Prizes Committee, of which he became Chairman in 1890, a position he retained until he was compelled, on account of ill-health, to resign his seat upon the Council in April, 1905. Mr. Sanday's death would be very deeply felt by his old colleagues on the Council.

Mr. WILLIAM HARRISON introduced a deputation from the City of Liverpool, composed of the Lord Mayor, Sir Charles Petrie, Alderman Simon Jude, Councillor Lea, and supported by Mr. John White (Chairman of the Council of the Royal Lancashire Agricultural Society) and Mr. H. W. Worsley-Taylor, K.C. (a Vice-President of that Society). The LORD MAYOR OF LIVERPOOL said they had come as a deputation, empowered by the City of

Liverpool, to invite the Society to hold its Show of 1910 in that city. He had been asked by Mr. White to say, on his behalf, and on behalf of other Members of the Royal Lancashire Agricultural Society, how cordially they would welcome the meeting in Lancashire of the "Royal" Society. Speeches in support of the invitation having been made by Sir CHARLES PETRIE, Alderman JUDE, and Mr. JOHN WHITE, the PRESIDENT thanked the deputation for the very kind invitation extended by them, which the Council had the greatest possible pleasure in accepting. The deputation then withdrew.

The Report of the Finance Committee was received and adopted, including the Statement of Receipts and Expenditure of the Show at Newcastle-on-Tyne, which was explained in detail by Mr. ADEANE (Chairman of the Committee).

The Report of the Chemical and Woburn Committee having been presented, and an explanatory statement made by Mr. BOWEN-JONES (Chairman) relative to the non-publication of the Consulting Chemist's Report presented at the last meeting, a discussion thereon ensued. It was eventually decided by twenty-one votes to fourteen to omit from the Committee's Report a recommendation that their Reports on cases of adulteration should in future be printed *in extenso* in the Society's Journal. The Council, however, agreed to the suggestion that the Report on cases of adulteration adopted by them in November should be forthwith circulated to all Members of the Society for their information only, and that future Reports should be circulated as opportunities offered.

The Report of the Committee of Selection was received and adopted, including the following recommendations:—(1) That the Earl of Jersey succeed Earl Spencer as a Trustee; (2) That the vacancy thus created in the list of Vice-Presidents be filled by the election of the Earl of Derby; (3) That Sir Gilbert Greenall, Bart., be elected a Vice-President in the room of the Right Hon. Henry Chaplin, M.P.

The PRESIDENT reminded the Council that Earl Spencer, who had resigned his position as a Trustee, joined the Society as a Member so long ago as the year 1859. His Lordship was elected to the Council in the year 1874, became a Vice-President in 1883, and a Trustee in 1898. It would also be remembered that he was President of the Society in the year 1898, when the Show was held at Birmingham; and the Council owed a debt of gratitude to Lord Spencer for all the work he had done. The PRESIDENT also pointed out that it was one of his Lordship's predecessors who practically formed the Society. Mr. Chaplin, who had expressed the hope that his position might be taken by some one who had more leisure and time to devote to the Society's work, became a Member in 1870, and first joined the Council in the year 1872, serving until 1874. He was again elected to the Council in 1884, and had been a Vice-President since 1889. The Council had also heard with great regret that Mr. Richard Stratton, who retired from the Council by rotation as a representative of the Division of Monmouth, which was included in Group "A," did not desire to seek re-election. Mr. Stratton became a Member in the year 1867, and eight years later (in 1875) took his seat upon the Council, thus being one of its oldest Members. He had been a Member of the Stock Prizes Committee for upwards of thirty years, and frequently acted as a Steward at the Annual Shows, where he was known as a prominent breeder and an exhibitor of Shorthorns. The PRESIDENT was sure the Council would very much regret the loss of Mr. Stratton's help, but he knew that he would always remain a good friend to the Society.

The PRESIDENT then presented a Report from the Committee appointed at the last meeting of the Council to confer with the representatives of the Royal Lancashire Agricultural Society. He was glad to be in a position to state that, as a result of the Conference held on December 7 between the representatives of the two Societies, various terms had been arranged under which the Royal

Lancashire Society would withhold its Annual Show on the occasion of the Society's visit to Liverpool. All difficulties having been swept away, the Societies would now co-operate in endeavouring to make the Show of 1910 a great success.

The following Standing Committees were appointed for 1909 :—Finance, Journal and Education, Chemical and Woburn, Botanical and Zoological, Veterinary, Stock Prizes, Implement, Showyard Works, Selection, and Dairy and Produce. The present Members of the various Committees were (with some exceptions) re-appointed to those Committees. Viscount Ridley and Mr. Louis C. Wrigley were added to the Journal and Education and Stock Prizes Committees, Mr. W. J. Hosken to the Chemical and Woburn and Stock Prizes Committees, Mr. W. A. May to the Chemical and Woburn Committee, Mr. F. Smith to the Stock Prizes Committee, and the Duke of Devonshire, Mr. H. Dent Brocklehurst, and Mr. G. G. Rea to the Committee of Selection.

Other business having been transacted, the Council adjourned until Wednesday, February 3, 1909, at 11 a.m.

Proceedings at the Annual General Meeting of Governors and Members,

HELD AT THE ROYAL AGRICULTURAL HALL, ISLINGTON,

WEDNESDAY, DECEMBER 9, 1908.

THE DUKE OF DEVONSHIRE (PRESIDENT) IN THE CHAIR.

Present:—Trustees.—Mr. F. S. W. Cornwallis, Lord Middleton, Sir John H. Thorold, Bart.

Vice-Presidents.—Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Rt. Hon. A. E. Fellowes, the Earl of Jersey, G.C.B., the Earl of Northbrook.

Other Members of the Council.—Mr. C. R. W. Adeane, Mr. T. L. Aveling, Mr. H. Dent Brocklehurst, Mr. T. A. Buttar, Mr. R. G. Carden, Sir R. P. Cooper, Bart., Mr. Henry Dudding, Mr. J. Falconer, Mr. Howard Frank, Mr. J. W. Glover, Mr. R. M. Greaves, Sir Gilbert Greenall, Bart., Mr. E. A. Hamlyn, Mr. J. Harris, Mr. J. H. Hine, Mr. J. Howard Howard, Mr. W. F. Ingram, Sir C. V. Knightley, Bart., Mr. Ernest Mathews, Mr. W. A. May, Mr. T. H. Miller, Mr. C. M. S. Pilkington, Mr. F. Reynard, Mr. John Rowell, Mr. W. Scoby, Mr. Fred. Smith, Mr. R. Stratton, Mr. H. Tallent, Mr. C. W. Tindall, Mr. A. P. Turner, Mr. E. V. V. Wheeler, and Mr. Louis C. Wrigley.

Governors.—Mr. Alfred Asbworth, Mr. R. C. Assheton, Mr. T. G. Benn, Mr. Terah F. Hooley, Mr. H. H. Vivian.

Members.—The Hon. C. B. Portman, Sir Herbert Chermiside, G.C.M.G., Sir Oswald Mosley, Bart., Sir Francis Walker, Bart., Messrs. J. A. Adams, R. J. Aspinall, W. Bainbridge, N. Benjafield, W. J. Bennison, C. F. Benson, T. Brigg, A. Britten, John Bryan, Roland Burke, Colin Campbell, James Chalcraft, J. C. Jesser Coope, F. S. Courtney, Major P. G. Craigie, C.B., Messrs. J. C. Daubuz, F. F. Downward, Douglas Ellis, W. England, George Gibbons, John Evens, Major R. M. Foot, Messrs. W. Fortune, J. T. Hobbs, Surgeon Lt.-Col. J. Ince, M.D., Messrs. Dunbar Kelly, John Kendrick, J. Pittman King, J. Lambshead, W. Langridge, the Rev. Cecil H. Legard, Messrs. F. D. Little, A. McNeilage, W. Madge, S. Mager, Joseph Martin, T. May, W. N. Mead, B. Middleton, H. C. Minchin, W. Mitchell, H. F. Moore, W. J. Morton, W. Nichol, W. Nisbet, J. Brittain Pasb, Professor J. Penberthy, Messrs. T. F. Plowman, F. E. Rands, E. C. Ransome, John Richards, J. Rooke, George Scoby, G. F. Sheppard, E. W. Shepperson, C. F. Simmons, S. Simpson, C. N. Skinner, A. J.

Smith, Henry Smith, sen., Henry Smith, jun., H. E. Smith, Edwin Smithells, T. Stinton, J. M. Sturgess, Garrett Taylor, J. Herbert Taylor, R. Thirlby, G. D. Thody, E. Trimen, F. W. Turner, Eldred G. F. Walker, R. Ward, G. P. Watkins, F. N. Webb, A. G. Weigall, A. F. T. Westrop, J. M. White, A. de C. Wilson, C. E. Wodehouse, George Wood, &c.

President's Opening Remarks.

The PRESIDENT, in opening the proceedings, said that by favour of the Royal Agricultural Hall Company, and of the Smithfield Club, they were again assembled there, and he could assure those present that it was a source of pleasure and satisfaction to him to preside over that meeting at the close of what he thought they would all agree had been one of the most successful years in the history of the Society.

The first business on the agenda was the presentation of the Balance-sheet, and the accounts were before them of the very successful Show at Newcastle, which had resulted in a credit balance of 10,054*l*. He felt that he could not proceed further without expressing, on behalf of the whole of the Society, their great indebtedness to the Lord Mayor of Newcastle, the Local Committee, the City of Newcastle, the Duke of Northumberland, and the county generally, to whose combined efforts this satisfactory result of the Show was to a large extent due. The Council and Members would, he knew, desire to place on record their most cordial thanks to Sir Gilbert Greenall, the Society's indefatigable Honorary Director. During the course of the past year his Grace had had many opportunities of seeing the work of Sir Gilbert Greenall, and he could only say that even if any one had no intention of doing work before, a few hours' contact with Sir Gilbert was sufficient to make that person energetic. Sir Gilbert had spared neither time nor effort to make the Show a success, and the result must be very gratifying to him. That result was in a large measure due to his personal work. He would like also to say how well Sir Gilbert had been supported by their Secretary, Mr. McRow, and all the staff. Everything went so smoothly now in connection with the "Royal" that some people might think there was no work to be done. He had seen something of the inner working of the Society, and he knew how big and complicated it was, and the smooth working was entirely due to those officials who had rendered such excellent and admirable services.

It would be noticed from the General Meeting Report that during the past year the Society had lost by death a very large number of its principal supporters, and there had now to be added the names of Mr. John Thornton and Mr. George H. Sanday. Mr. Thornton's sudden death removed a great personality from the agricultural world, and Shorthorn breeders especially would feel the loss of so eminent an auctioneer, and, in many cases, of a personal friend. Mr. Sanday would be remembered by many of his old colleagues on the Council for his services as Chairman of the Stock Prizes Committee, and as Steward on various occasions of the several departments in the Showyard.

The Seventieth Annual Show of the Society would take place at Gloucester from Tuesday, June 22, to Saturday, June 26, 1909. The prize-sheet, to be issued early next year, would be on the same comprehensive lines as the schedules of the last three Shows, and he took that opportunity of saying how generous the Breed Societies had been, as on former occasions, in their contributions to the Prize Fund. It was largely due to the interest of the Breed Societies, and the practical form that interest had taken, that the Society was able to put forward a prize-sheet which would be an attractive one, and would, he was sure, continue to be an attractive one in the future.

As would be observed from the Report, the somewhat large amount of 660*l*. was offered as prizes for farms of various descriptions in the Counties of Gloucester and Wiltshire, and in Herefordshire and Worcestershire, the classification being arranged to meet the special character of the farms in those districts.

The Council had been favoured with a most cordial invitation from the Liverpool City Council to hold the Society's Annual Show in that city in 1910, and the Lord Mayor of Liverpool had very kindly attended the Council Meeting that day, with other Members of his Council and Members of the Royal Lancashire Agricultural Society, to support the invitation which had been previously tendered. He need hardly say that the Council had most heartily accepted that invitation, and they looked forward with much pleasure to the holding of their Show in Lancashire in 1910, in connection with which they were assured of the full support of the Royal Lancashire Society.

There was one matter which had been frequently mentioned at General Meetings, and that was the question of membership. It was the only matter that gave the Council any cause for feeling disappointed in connection with the working of the year. He found that, in spite of the efforts that have been made to obtain new recruits, there was only a net increase of something like forty-nine since the last Annual Meeting. Of course, death had been very hard on Members of the Society, and they had to deplore a great many losses, but he admitted that he had been in hopes that they might have done more than they had done during the past twelve months to obtain Members. Suggestions had very often been put forward at the General Meeting as to ways in which to recruit Members. He himself felt confident that everything that could be done by the Council was being done with a view of obtaining Members. To quote an expression used at the Council Meeting that day by the Chairman of their Finance Committee, they were making every effort to see that for every 12. expended the Members of the Society got full value for it. There was only one way to add to the List of Members, and that was by individual and personal exertions of every Member of the Society. If every one succeeded in getting one or two additional Members, they would, of course, have a very large increase by this means. He would be very glad to receive suggestions from those present as to what should be done to induce more Members to join. Every Member might use his influence by making more widely known the advantages which the Society afforded to its subscribers. Possibly the mere fact of a successful Show might attract a considerable number, but he wished to impress upon them most strongly that the Society's operations were by no means restricted to the holding of a Show. That was no doubt the primary, and possibly the most attractive portion of the work, but in almost every other sphere, although a man might not be an exhibitor, they were doing something to benefit every one engaged in agriculture. For instance, he might mention, in passing, that the question of the adulteration of feeding-stuffs and manures had been occupying, and was still occupying, the constant attention of the Council. Certain matters had been brought to their notice, and it had been decided that a statement should be circulated to all Members of the Society calling attention to various facts, and they had also taken steps to bring certain facts to the attention of the Board of Agriculture. He only quoted that as one instance of the work the Society was doing in addition to holding an Annual Show, and although an agriculturist might not necessarily be an exhibitor at Shows, yet he thought in the Journal and other benefits which a Member received he got very good value for his money. That was the only matter he had to make any criticism upon, and he hoped that with increased prosperity and increased usefulness they might be able to induce a considerable number of Members to join. As the Report of the Council had been printed and circulated to every Member of the Society, the meeting would probably be willing that it should be taken as read.

Adoption of Report.

Mr. GEORGE GIBBONS (Bath) had much pleasure in moving the adoption of the Report. He was glad to see that prizes were again to be offered for farms, and he was also pleased to observe the stand which the Society had taken against the importation of foreign cattle. He congratulated the President and Council upon the splendid work that had been performed during the past

year, and upon the magnificent return from the Newcastle Meeting, which he hoped would not for many years remain the highest. There was one matter to which he desired to refer which was of the greatest importance to British agriculture. That was the adoption of mechanical power for driving mowing and reaping machines. He had been present at the fourth country meeting held by the Society, and in the whole of the Showyard on that occasion there was not a single appliance for haymaking or corn harvesting, except waggons, scythes, hooks, picks, and rakes; but it was totally different now. Everything in the harvest field was now done by horses, from cutting to elevating to the rick. Every horse on the farm was wanted to perform very hard work. He thought the time had come when mechanical power should be employed in the harvest-field. Motor-power was called in some cases the fiend of the road, but he hoped that in future it might be called the fairy of the field. No doubt within a short time something would be done, and a complete appliance introduced. He fancied that he himself would know how to make one that could be taken into a field of twelve acres, and cut it down in two hours. He suggested that the Council should offer prizes at the Liverpool Meeting of 1910 for the adoption of motor-power for mowing and reaping.

Mr. JOSEPH MARTIN, in seconding the Report, congratulated the Council upon the handsome Balance-sheet presented that day. He rejoiced to find that the Council had returned to the vigour of their youth. He regretted to see amongst those who had passed away the names of Sir Nigel Kingscote, Sir Massey Lopes, and Lord Derby, and he could not help regretting their loss.

The PRESIDENT stated that, as Mr. Gibbons had raised the question, he thought he might explain that the Council had now under consideration a proposal to hold trials of motors in connection with the Show of 1910, and he was sure it would be possible to carry out something in the direction suggested.

Mr. JOHN KENDRICK (Stafford) said that, as one who took a great interest in the Society, he really thought that some one in authority ought to have let the Members in Staffordshire know that they only required an additional four Members to qualify them to have two representatives on the Council. If this had been done before the last election, and the two representatives had been notified, they would have spread it about amongst those interested in agriculture in the county, and he might say that they would not merely have got four Members, but twenty-four, or even forty-four. There was no doubt that they would obtain Members when there was something of this kind to work for. He desired to bring the matter forward, and he hoped that some notice would be taken of it. He was sure that if his suggestion were carried out it would mean a very great increase in the membership, which the President had stated was so desirable.

The Report of the Council was then unanimously adopted.

Election of President.

Major P. G. CRAIGIE, C.B., said it was with great pleasure that he rose to carry out a duty which every Member in that room would, he felt sure, have been glad to perform. It was to propose that the Earl of Jersey be elected as President of the Society for the ensuing year. When they looked back at the long roll of Royal and noble Presidents of the Royal Agricultural Society, they felt it their duty that the great succession should be worthily continued, and he felt certain that, in commending to their notice the name of the Earl of Jersey, every one would support him with cordial approval. His Lordship had been known to them as a Member of Council for many years, and he was known outside that Society wherever agriculturists met together, and his advice was freely given, and tendered in a most amiable manner. Lord Jersey had this distinction, in addition to many that had graced their Presidents in the past—not only had he displayed interest in the agriculture of this country, but he had been a distinguished Governor of one of their overseas dominions.

Mr. JAMES T. HOBBS (Fairford) said that he had nothing to add to the very eloquent speech of Major Craigie. They in Gloucestershire felt proud

that Lord Jersey was coming over the border next year to preside over the Gloucester Show, and he could assure them that nothing would be left undone locally to ensure the Show a bumping success. He hoped that Lord Jersey's year of office would be a real pleasure to him.

The resolution, having been put to the meeting, was unanimously carried.

The Earl of JERSEY, in response, said he was deeply grateful to the meeting for his election as President of the Society. He also desired to thank his friend Major Craigie for the kind remarks which he had made, and also Mr. Hobbs for the welcome to Gloucester extended in anticipation, not only to himself, but to the Society, in the coming year. The duties of President were perhaps rather more constant than onerous, but, whatever those duties were, he would endeavour to carry them out to the best of his ability. It might be that next year they could not look forward to such a record as at Newcastle, but, as the President had said, there was work for the "Royal" to do besides that of having a successful Show, and he felt confident that the judgment and deliberations of the Council, upon whom the President must always rely, would go far to further and benefit the great interests of agriculture in every direction. They in England firmly believed that they were ahead of every other country with regard to agriculture, and he was sure that the Society and the Council especially would do everything in their power to maintain the lead now held.

Election of Trustees.

The following twelve Trustees were elected by show of hands :—H.R.H. the Prince of Wales, K.G., the Duke of Bedford, K.G., Earl Cawdor, Mr. F. S. W. Cornwallis, the Earl of Coventry, the Duke of Devonshire, Earl Egerton of Tatton, Sir Walter Gilbey, Bart., the Earl of Jersey, G.C.B., Lord Middleton, Lord Moreton, and Sir John H. Thorold, Bart.

Election of Vice-Presidents.

The Vice-Presidents were then re-elected by show of hands, as follows :—H.R.H. Prince Christian, K.G., Mr. J. Bowen-Jones, Mr. Percy Crutchley, the Earl of Derby, G.C.V.O., C.B., Mr. J. Marshall Dugdale, the Right Hon. Ailwyn E. Fellowes, the Earl of Feversham, Sir Gilbert Greenall, Bart., the Earl of Northbrook, the Duke of Northumberland, K.G., the Hon. Cecil T. Parker, and the Earl of Yarborough.

Election of Auditors.

Mr. R. C. ASSHETON (Clitheroe) then moved that the best thanks of the Society be tendered to Mr. Jonas M. Webb, Mr. Hubert J. Greenwood, and Mr. Newell P. Squarey for their services as auditors during the past year, and that they be re-elected to hold office until the next ensuing Annual General Meeting. The work of the auditors was thoroughly well done, and he was sure that the Members were very much indebted to them for their efforts.

Mr. JOHN KENDRICK, in seconding the motion, said the duties of the auditors were somewhat onerous, but those duties during the past year must have been of a very pleasant character, and he sincerely hoped that there would be many years when the results would be as satisfactory as they were this year.

Election of Council.

The PRESIDENT stated that the necessary steps had been taken to fill the vacancies on the Council in the representation of the districts in Group "A," the Members of which retired by rotation; and he, as President, had to formally report to the Annual General Meeting the names and addresses of the Ordinary Members of Council who had been elected by the divisions of that Group, in order that the meeting might, in accordance with the By-laws, "take cognisance" of their election.

These names and addresses were as follows :—

Northumberland : Viscount Ridley, Blagdon, Cramlington; Mr. G. G. Rea, Middleton Wooler.

Yorks, North Riding : Mr. William Scoby, Hobground House, Sinnington.

Lancashire (and Isle of Man): Mr. William Harrison, Hall House, Leigh; Mr. T. H. Miller, Singleton Park, Poulton-le-Fylde.
 1 Cheshire: Sir Gilbert Greenall, Bart., Walton Hall, Warrington.
 Derby: Mr. John T. C. Eadie, The Rock, Newton Solney, Burton-on-Trent.
 Northampton: Sir Charles V. Knightley, Bart., Fawsley, Daventry.
 Norfolk: Mr. Herbert Tallent, West Acre, Swaffham.
 Bedford: Mr. John Howard Howard, Clapham Park, Bedford.
 Hertford: Mr. Richardson Carr, Estate Office, Tring Park.
 Middlesex: Mr. George Taylor, Cranford.
 Stafford: Sir Richard Cooper, Bart., Shenstone Court, Lichfield.
 Worcester: Mr. E. V. V. Wheeler, Newnham Court, Tenbury.
 Monmouth: Mr. Louis C. Wrigley, Trelick Grange, Chepstow.
 Cornwall: Mr. W. J. Hosken, Pulsack, Hayle.
 Dorset: Mr. Arthur Hiscock, Manor Farm, Motcombe, Shaftesbury.
 Hampshire and Channel Islands: Mr. James Falconer, Northbrook Farm, Micheldever Station.
 Scotland: Mr. Thomas A. Buttar, Corston, Coupar Angus.

Thanks to President.

Mr. ALFRED ASHWORTH (Gresford) had the honour to propose the next resolution, which was one that did not require any words from him to commend it to their favourable acceptance. It was that a cordial vote of thanks be given to the Duke of Devonshire for his services as President during the past year.

His Grace was the third Duke of Devonshire who had held the office of President, and ever since his election to the Council in 1898 he had rendered exceptional service to the Society. His Grace's year of Presidency had been one of the most successful in the history of the Society. That was not the only thing, for there were many points in the management of the Newcastle Show which had rendered it of more public interest than any previous Show. He thought the appeal for Members would be responded to in the coming year. They thanked the Duke of Devonshire for the excellent way in which he had presided over the operations of the Council, and he sincerely hoped that the Society might have the benefit of his services for many years to come.

Sir OSWALD MOSLEY seconded the vote of thanks to their worthy President. No man in the world had worked harder than their Midland County "Mr. Victor," as they were proud to call him in former days, and now they respected and admired him as being a representative of agriculture, and yet one of the highest in the land. They must look to those gentlemen to patronise and look to their interests. They wanted worthy men in their present President's position to look to the agricultural interest without bias, without prospect of anything in the future. Their whole heart and soul were given to this work without any reward, as far as it went in this world. He hoped it might come in the next! (Laughter.)

The SECRETARY having put the motion to the meeting, it was carried by acclamation.

The Duke of DEVONSHIRE thanked the meeting most sincerely for the vote of thanks which had been passed. He could confidently say that his year of office had been a very pleasant one. He had had to do with various bodies, but he had never been privileged to be associated with a body like the Royal Agricultural Society, and the Council in particular. This latter body was a strong and determined one, which knew its own mind, but there had never been one moment of friction, or anything that they could look back upon except with pleasure. It was a great privilege to occupy the position of President of that great Society. He would remember his year of office with pleasure and satisfaction, and if there was anything he could do for the "Royal" in the future, they could absolutely rely on his assistance and co-operation.

The meeting then terminated.

¹ Owing to the election of Sir Gilbert Greenall as a Vice-President a vacancy was created in the representation on the Council of the Division of Cheshire, which has been filled by the election of the Hon. J. E. Cross.

NEWCASTLE SHOW,

JUNE 30 TO JULY 4, 1908.

PRESIDENT :

THE DUKE OF DEVONSHIRE, Chatsworth, Chesterfield.

OFFICIALS :

Honorary Director.

SIR GILBERT GREENALL, Bart., Walton Hall, Warrington.

Stewards of Live Stock.

CYRIL E. GREENALL, Willoughby Hall, Grantham.

JOHN ROWELL, Bury, Huntingdon.

JOSEPH HARRIS, Brackenbrough Tower, Carlisle.

C. W. TINDALL, Wainfleet, S.O., Lincolnshire.

THOMAS A. BUTTAR, Corston, Coupar Angus.

Stewards of Implements.

R. M. GREAVES, Wern, Portmadoc.

CLAUDE M. S. PILKINGTON, Wollaton, Nottingham.

Steward of Dairying and Poultry.

ERNEST MATHEWS, Little Shardeloes, Amersham, Bucks.

Steward of Forage.

GEORGE G. REA, Middleton, Wooler, Northumberland.

Steward of Refreshments.

WILLIAM HARRISON, Hall House, Leigh, Lancs.

Steward of Education Exhibition.

J. BOWEN-JONES, St. Mary's Court, Shrewsbury.

Stewards of Finance.

CHARLES R. W. ADEANE, Babraham Hall, Cambridge.

THOMAS L. AVELING, Boley Hill House, Rochester.

RICHARDSON CARR, Estate Office, Tring Park, Herts.

SIR RICHARD P. COOPER, Bart., Shenstone Court, Lichfield.

Surveyor.

J. R. NAYLOR, F.R.I.B.A., Smith's Bank Chambers, Derby.

Secretary.

THOMAS McROW, 16 Bedford Square, London, W.C.

JUDGES OF IMPLEMENTS.

Manure Distributors.

FRANK MARTIN, Hubbert's Bridge, Boston.

JAMES YOUNGER, Burradon Farm, Newcastle-upon-Tyne.

Miscellaneous Implements entered for Silver Medals.

FRANK MARTIN, Hubbert's Bridge, Boston.

JAMES YOUNGER, Burradon Farm, Newcastle-on-Tyne.

JUDGES OF LIVE STOCK, &c.

(As finally arranged.)

HORSES.

Hunters.—*Classes 1-10, and 62-68 ; and Polo Ponies.—Classes 11-15 and 69.*

THE EARL OF ORKNEY, The Tythe House, Stewkley, Leighton Buzzard.
ANTHONY F. MAUDE, Kilwarlin, Hillsborough, Ireland.

Cleveland Bays and Coach Horses.—*Classes 16-19.*

W. SCARTH DIXON, Fairlight, Luton, Beds.

Hackneys.—*Classes 20-28 ; Hackney Ponies.—Classes 29-32 ; and Harness Horses.—Classes 70-84.*

R. G. HEATON, The Ferry, Chatteris.
JOHN WREGHITT, East Thorpe, Market Weighton.

Shetland Ponies.—*Classes 33 and 34 ; Highland or Fell Ponies.—Classes 35-36 ; and Dales Ponies.—Classes 37-38.*

JOHN J. R. MEIKLEJOHN, Raith, Kirkcaldy.

Shires.—*Classes 39-47.*

EDWARD GREEN, The Moors, Welshpool.

EDMOND WHINNERAH, Warton, Carnforth.

Clydesdales.—*Classes 48-55.*

J. P. SLEIGH, St. John's Well's, Fyvie.
WILLIAM TAYLOR, Park Mains, Renfrew.

Suffolks.—*Classes 56-60.*

W. R. HUSTLER, Earls Hall, Cockfield, R.S.O., Suffolk.

Draught Geldings.—*Class 61.*

WILLIAM TAYLOR, Park Mains, Renfrew.

EDMOND WHINNERAH, Warton, Carnforth.

Pit Ponies.—*Classes 85 and 86.*

NATHANIEL CLARK, Tanfield Hall, Tantobie, R.S.O., Co. Durham.

Draught Horses in Gears.—*Classes 87-90.*

R. C. COOPER, Waltham, Melton Mowbray.

W. R. TROTTER, North Acomb, Stocksfield-on-Tyne.

CATTLE.

Shorthorns.—

Classes 91-99, and 104-105.

JAMES DURN0, Jackstown, Rothie-norman, Aberdeenshire.

GEORGE FREEMAN, Sherborne, North-leach, R.S.O., Glos.

Dairy Shorthorn Cows and Heifers.—*Classes 100-102.*

ROBERT HOBBS, Junr., Kelmscott, Lechlade, Glos.

Lincolnshire Red Short-horns.—*Classes 106-112.*

C. CRAWLEY, Hemington, Oundle.

Herefords.—*Classes 114-119.*

LAWTON MOORE, Brampton Bryan, Herefordshire.

W. THOMAS, The Hayes, Sully, Cardiff.

Devons.—*Classes 120-124.*

W. J. CHICK, Stratton, Dorchester.

South Devons.—*Classes 125-128.*

J. M. PEEKE, Hernafor, Totnes.

Sussex.—*Classes 130-134.*

GERALD WARDE, Tutsham Hall, West Farleigh, Maidstone.

Welsh.—*Classes 135-139.*

T. H. VAUGHAN, Sychtyn, Llanerfyl, Welshpool.

Red Polled.—*Classes 140-144.*

A. D. BRUCE, Estate Office, Elvetham Park, Winchfield.

Aberdeen-Angus.—*Classes 146-153.*

GEORGE CRAN, Morlich, Glenkindie, Aberdeenshire.

JAMES WHYTE, Hayston, Glamis.

Galloways.—*Classes 154-158.*

JOHN MCTURK, Ashley Bank, Castle Douglas.

Highland.—*Classes 159-162.*

J. R. CAMPBELL, Shinness, Lairg, Sutherland.

Ayrshires.—*Classes 163 and 167.*

A. W. MONTGOMERIE, Lessnessock, Ochiltree, Ayrshire.

Jerseys.—*Classes 169-175.*

PHILIP J. AHIER, Scymour Farm,
Gorey, Jersey.

W. ASHCROFT, 13 The Waldrons,
Croydon, Surrey.

Guernseys.—*Classes 177-181.*

C. D. MARE, Ashwick, Chelmarsh,
Bridgnorth.

Longhorns.—*Classes 183 and 184.*

JOHN T. OXLEY, Stowe, Buckingham.

Kerry.—*Classes 186-188; and Dexter.*
—*Classes 190-193.*

Col. W. STALLARD, St. John's House,
Worcester.

F. N. WEBB, Babraham, Cambridge.

SHEEP.

Oxford Downs.—*Classes 197-200.*

ANDREW S. ELLIOT, Hollybush, Gala-
shiels.

Shropshires.—*Classes 201-207.*

W. BARRS, Tempe, Measham, Ather-
stone.

A. S. GIBSON, Two Gates, Altrincham,
Cheshire.

Southdowns.—*Classes 208-213.*

HERBERT PADWICK, The Manor
House, West Thorney, Emsworth.

GARRETT TAYLOR, Trowse House,
Norwich.

Hampshire Downs.—*Classes 214-218.*

JOSEPH DEAN, Westwood, Wilton
Road, Salisbury.

W. T. HALL, Highclere Farm, New-
bury.

Suffolks.—*Classes 219-224.*

J. R. GRIMSEY, St. Helena, Dunwich,
Suffolk.

Dorset Horn.—*Classes 225-228.*

W. J. CHICK, Stratton, Dorchester.

Ryelands.—*Classes 229-231.*

J. H. YEOMANS, Withington, Here-
ford.

Kerry Hill.—*Classes 232-239.*

GEORGE MACQUEEN, Tan-yr-Allt,
Welshpool.

Lincolns.—*Classes 236-242.*

CHARLES CLARK, Brookside, Scop-
wick, Lincoln.

WILLIAM WRIGHT, Scamblesby
House, Horncastle.

Leicesters.—*Classes 243-246.*

J. J. STAMPER, Highfield House,
Nunnington, Yorkshire.

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Border Leicesters.—*Classes 247-249.*

JAMES JEFFREY, Deuchrie, Preston-
-kirk.

ANDREW WOOD, Brocksbushes,
Stocksfield-on-Tyne.

Cotswolds.—*Classes 250-253.*

W. THOMAS, The Hayes, Sully
Cardiff.

Kent or Romney Marsh.—

Classes 254-258.

C. J. G. HULKES, Somerhill Estate
Office, Tonbridge, Kent.

Wensleydales.—*Classes 259-262.*

WILLIAM RHODES, Lundholme, West-
house, Kirkby Lonsdale.

J. O. TROTTER, Scruton, Bedale.

South Devons.—*Classes 263 and 264.*

J. M. PEEKE, Hernaford, Totnes.

Cheviots.—*Classes 265-268.*

MICHAEL JOHNSTONE, Alton, Moffat.

THOMAS O. THORNTON, Hyndlee,
Hawick.

Lonks.—*Classes 269-271.*

WILLIAM S. AIREY, Whalley, Black-
burn.

Herdwicks.—*Classes 272-274.*

JOHN NELSON, Undercragg, Mungris-
dale, Penrith.

Welsh Mountain.—

Classes 275 and 276.

T. H. VAUGHAN, Sychtyn, Llanerfyl,
Welshpool.

Black-faced Mountain.—

Classes 277-281.

JOHN CRAIG, Innergeldie, Comrie,
Perthshire.

PIGS.

Large Whites.—*Classes 282-287.*

A. F. NICHOL, Bradford, Belford,
Northumberland.

Middle Whites.—*Classes 288-293.*

HENRY SMITH, Junr., The Cottage,
Cropwell Butler, Nottingham.

Tamworths.—*Classes 294-299.*

C. HOWARD TAYLOR, Hampole Priory,
near Doncaster.

Berkshires.—*Classes 300-305.*

R. E. HORWOOD, Drayton Beauchamp,
Tring.

G G

Large Blacks.—Classes 306-311.

R. BEAUMONT BOND, The Red House,
Sproughton, Ipswich.

Lincolnshire Curly-coated.—

Classes 312-317.

HENRY GOODYEAR, Austerby, Bourne.

POULTRY.

Classes 318-416.

W. W. BROOMHEAD, 97, Philip Lane,
Tottenham, London, N.

THOMAS LAMBERT, Bourne Mill,
Hadlow Kent.

Rev. T. W. STURGESS, Marston Vicar-
age, Northwich.

PRODUCE.**Butter.—Classes 417 and 418.**

J. F. BLACKSHAW, Kingston, Derby.

Cheese.—Classes 419-427.

G. W. OUBRIDGE, Newcastle-upon-
Tyne.

Cider and Perry.—Classes 428-431.

B. T. P. BARKER, M.A., Long Ashton,
Bristol.

JOHN H. WOOTTON, Byford, Hereford.

Wool.—Classes 432-441.

F. C. COLLINS, 1 Duke Street, Cheap-
side, Bradford.

T. H. MOORE, Dundas Street, Hudders-
field.

Hives and Honey.—Classes 442-465.

W. BROUGHTON CARR, 8 Henrietta
Street, Covent Garden, London.

J. N. KIDD, Well Close, Stocksfield-
on-Tyne.

W. F. REID, Fieldside, Addlestone,
Surrey.

Rev. SIDNEY SMITH, Wheldrake
Rectory, York.

COMPETITIONS.**Jumping.**

SIR RICHARD P. COOPER, Bart.,
Shenstone Court, Lichfield.

SIR H. F. DE TRAFFORD, Bart., Hill
Crest, Market Harborough.

E. W. GRIFFITH, Plasnewydd, Tref-
nant, R.S.O., North Wales.

FREDERICK REYNARD, Sunderland-
wick, Driffield.

JOHN C. STRAKER, The Leazes, Hex-
ham.

R. C. SWAN, Caythorpe Court, Grant-
ham.

C. W. WILSON, Rigmaden Park,
Kirkby Lonsdale.

Horse-shoeing.

G. ELPHICK, M.R.C.V.S., 1 Brandling
Park, Newcastle-upon-Tyne.

W. JONES ANSTEY, R.S.S., Northenden,
Jackson Avenue, Roundhay, Leeds.

PLANS OF FARM BUILDINGS.

ARTHUR S. GIBSON, Two Gates,
Altrincham, Cheshire.

CHARLES P. HALL, Park Farm Office,
Woburn.

FREDERICK REYNARD, Sunderland-
wick, Driffield.

FARMS.

JOHN EVENS, Burton, Lincoln.

WILLIAM HINDMARSH, Newton
House, Christon Bank, R.S.O.

SHEEP DOG TRIALS.

JAMES SCOTT, Troneyhill, Ancrum.

**DAIRY COWS AND MILKERS'
COMPETITIONS.**

R. METCALFE, Spruce Gill, Finghall,
R.S.O., Yorkshire.

CHIEF VETERINARY OFFICER.

JOHN MALCOLM, F.R.C.V.S., Holliday
Street Wharf, Birmingham.

VETERINARY INSPECTORS.

G. ELPHICK, M.R.C.V.S., 1 Brandling
Park, Newcastle-upon-Tyne.

Professor J. MACQUEEN, F.R.C.V.S.,
Royal Veterinary College, Camden
Town, N.W.

H. S. ELPHICK, M.R.C.V.S., 56 Eldon
Street, Newcastle-upon-Tyne.

G. M. MITCHELL, M.R.C.V.S., Abbey-
gate, Beechwood Street, Sunder-
land.

HARRY MOORE, M.R.C.V.S., Potter
Street, Worksop

JOHN J. RIDLEY, M.R.C.V.S., Osborne
House, Beverley.

C. W. STANLEY, M.R.C.V.S., Melton
Mowbray.

ASSISTANT VETERINARY OFFICER.

WILLIAM TRIGGER, M.R.C.V.S., New-
castle, Staffs.

AWARDS OF PRIZES AT NEWCASTLE, 1908.

ABBREVIATIONS.

I., First Prize. II., Second Prize. III., Third Prize. IV., Fourth Prize.
R. N., Reserve Number. H. C., Highly Commended.

N.B.—The responsibility for the accuracy of the description or pedigree, and for the eligibility to compete of the animals entered in the following classes, rests solely with the Exhibitors.

Unless otherwise stated, each Prize Animal in the Classes for Horses, Cattle, Sheep and Pigs was "bred by Exhibitor."

HORSES.

BREEDING CLASSES.

Hunters.¹

No. in
Cata-
logue.

Class 1.—*Hunter Colts or Geldings, foaled in 1907.*

[4 entries, 1 absent.]

- 2 I. (£20.)—EDWARD HARRISON, Acaster Hill, Easingwold, for **Harbinger**, chestnut gelding; s. Squadron Leader, d. Miss Melbourne *by* The Unknown 78.
- 4 II. (£10.)—HENRY KIDD, Lowood, Melrose, for **Fortune**, chestnut gelding: s. Gold.
- 3 III. (£5.)—EDWARD HODGSON, The Hollows, Bridlington, for **Blucher**, bay colt, bred by H. S. Malone, Ballytore, co. Kildare; s. Delemont, d. *by* Master Ned.

Class 2.—*Hunter Geldings, foaled in 1906.* [17 entries, 7 absent.]

- 7 I. (£20.)—T. L. BENNETT, Cross Hands Hotel, Chipping Sodbury, for **Sermon**, chestnut, bred by S. W. Carson, Ballyneety, Ardfinane, co. Tipperary; s. Royal Minister, d. K. T. S. *by* Hartstown.
- 10 II. (£10.)—R. L. FENWICK, Wymondham, Oakham, for **Game Boy**, bay; s. Whisperer, d. May Queen *by* May Boy.
- 18 III. (£5.)—HENRY KIDD, Lowood, Melrose, for **Little Gallant**, chestnut, bred by the late J. Richardson, Maun House, Softon, York; s. Wales, d. *by* Red Eagle 33.
- 17 R. N. & H. C.—EDWARD HODGSON, The Hollows, Bridlington, for **Yeoman**.

Class 3.—*Hunter Geldings, foaled in 1905.* [10 entries, 1 absent.]

- 24 I. (£20.)—R. L. FENWICK, Wymondham, Oakham, for **Zealot**, chestnut; s. Whisperer, d. *by* Zeal.
- 29 II. (£10, & Special.²)—HENRY WATSON, Benton Lodge, Long Benton, R.S.O., for **False Alarm**, brown, bred by T. Argles, Gillingham; s. Pantomime, d. Margaret.
- 26 III. (£5.)—EDWARD HODGSON, The Hollows, Bridlington, for **Killarney**, bay, bred by Major Honner, Brannockstown, co. Kildare; s. Red Prince 2nd, d. *by* Delemont.
- 30 R. N. & H. C.—F. B. WILKINSON, Cavendish Lodge, Edwinstowe, Newark, for **Admiral**.

Class 4.—*Hunter Fillies, foaled in 1907.* [17 entries, 3 absent.]

- 35 I. (£20.)—JAMES CAIRNS, Abercrombie, St. Monance, Fife, for **Joyful 3123**, chestnut, bred by A. Rutherford, Brokenheugh, Haydon Bridge; s. King's Beadsman, d. Lady Mowbray *by* Blue Glass.
- 46 II. (£10.)—C. W. RES STOKES, Warwick House, Tenby, for **Gold Belle**, chestnut; s. Gold Medallist, d. The Belle of Dee *by* Deeside.
- 37 III. (£5.)—R. L. FENWICK, Wymondham, Oakham, for **Silent**, chestnut; s. Whisperer, d. Sunny Bank *by* Favo.
- 48 R. N. & H. C.—F. B. WILKINSON, Edwinstowe, Newark, for **Travelling Lass**.

¹ £120 towards these prizes were given by gentlemen interested in the breeding of Hunters.

² Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Colt or Gelding in Classes 1, 2 and 3.

lviii *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 5.—*Hunter Fillies, foaled in 1906.* [9 entries, 3 absent.]

- 57 I. (£20, & R. N. for Champion.¹)—F. B. WILKINSON, Cavendish Lodge, Edwinstowe, Newark, for *Lady Bird*, bay, bred by O. T. Quibell, Newark-on-Trent: s. *Worsthorn*.
- 58 II. (£10, & Special.²)—DAVID DEUTCHAR, Low Buston, Warkworth, for *Gay Girl* 2nd, bay; s. *Coquet Lad*, d. *Dusky Girl* 3092 by *Aborigine*.
- 59 III. (£5.)—W. S. RIDEHALGH, Kent's Ford, Grange-over-Sands, for *Actress*, bay, bred by C. Brennen, Harriestown, co. Kildare; s. *Red Prince* 2nd, d. by *Delemont*.
- 49 R. N. & H. C.—JAMES CAIRNS, Abercrombie, St. Monance, Fife, for *Sylvia*.

Class 6.—*Hunter Fillies, foaled in 1905.* [9 entries, none absent.]

- 61 I. (£20, & Champion.¹)—LORD MIDDLETON, Birdsall House, York, for *Modwena*, bay; s. *Wales*, d. *Madam Modjeska* by *Gordon*.
- 62 II. (£10.)—W. S. RIDEHALGH, Kent's Ford, Grange-over-Sands, for *Mab*, bay, bred by E. Hodgson, The Hollows, Bridlington; s. *Pax*, d. *Faithful* by *Gooseberry*.
- 59 III. (£5.)—DAVID DAVIES, M.P., Plas Dinam, Llandinam, for *Alpha*, bay, bred by W. B. Swallow, Wootton Lawn, Ulceby; s. *Wales*, d. *Tugela* 2544 by *Anklebiter*.
- 66 R. N. & H. C.—F. B. WILKINSON, Edwinstowe, Newark, for *Maid Marian*.

Class 7.—*Hunter Mares, with Foals at foot, up to 14 stone.*

[11 entries, 1 absent.]

- 71 I. (£20, & Champion.³)—E. W. ROBINSON, Liscombe, Leighton Buzzard, for *Golden Leaf* 2896, chestnut, foaled 1894 [foal by *Red Sahib*], bred by M. D. Peacock, Manor House, Middleham; s. *Tertius*, d. *Golden Fringe* by *Discord*.
- 69 II. (£10.)—CAPTAIN CLAYHILLS HENDERSON, R.N., Invergowrie, Dundee, for *Rosemary*, chestnut, foaled 1896 [foal by *Akbar*]; s. *Mosshawk*, d. *Princess Patricia* 1176.
- 72 III. (£5, & Special.⁴)—C. W. REES STOKES, Warwick House, Tenby, for *The Belle of Dee*, brown, foaled 1902 [foal by *Gold Medallist*]; s. *Deeside*, d. *Sunshine* by *Macal-mont*.
- 70 R. N. & H. C.—J. S. RIOG, Elm Bank, Appleby, for *Ting-a-ling*.

Class 8.—*Hunter Mares, with Foals at foot, up to more than 14 stone.*

[7 entries, 2 absent.]

- 83 I. (£20, & R. N. for Champion.⁵)—J. A. MULLENS, Barrow Hills, Longcross, for *Lubra*, black [foal by *Glenrossal* 45], breeder and age unknown.
- 81 II. (£10.)—EDWARD HODGSON, The Hollows, Bridlington, for *Faithful*, bay, foaled 1896 [foal by *St. Pancras*], bred by the late W. Ouston, Bishop Burton, Beverley; s. *Gooseberry*.
- 78 III. (£5.)—JAMES CAIRNS, Abercrombie, St. Monance, Fife, for *Lady Mowbray*, brown, foaled 1895 [foal by *King's Beadsman*], breeder unknown; s. *Blue Glass*.
- 84 R. N. & H. C.—E. W. ROBINSON, Liscombe, Leighton Buzzard, for *Lady Muriel*.

Class 9.—*Hunter Colt Foals, the produce of mares in Classes 7 or 8.*

[6 entries, 2 absent.]

- 89 I. (£10.)—W. B. SWALLOW, Wootton Lawn, Ulceby, for brown; s. *Wales*, d. *Tugela* 2544 by *Anklebiter*. [Exhibited with No. 74 in Class 7.]
- 90 II. (£5.)—W. & H. WHITLEY, Primley Farm, Paignton, for bay; s. *Glenrossal* 45, d. *Glow-worm* by *Traverser* 2nd. [Exhibited with No. 76 in Class 7.]
- 87 III. (£3.)—EDWARD HODOSON, The Hollows, Bridlington, for bay. [Exhibited with No. 81 in Class 8.]
- 86 R. N. & H. C.—CAPT. CLAYHILLS HENDERSON, R.N., Invergowrie, Dundee, for *Allah*.

Class 10.—*Hunter Filly Foals, the produce of mares in Classes 7 or 8.*

[11 entries, 1 absent.]

- 97 I. (£10.)—E. W. ROBINSON, Liscombe, Leighton Buzzard, for *Red Leaf*, chestnut, [Exhibited with No. 71 in Class 7.]
- 95 II. (£5.)—J. A. MULLENS, Barrow Hills, Longcross, for *Pretoria*, bay. [Exhibited with No. 83 in Class 8.]
- 98 (£3, & Special.⁶)—C. W. REES STOKES, Warwick House, Tenby. [Exhibited with No. 72 in Class 7.]
- 96 R. N. & H. C.—J. S. RIOG, Elm Bank, Appleby, for *Alice*.

¹ Champion Gold Medal given by the Hunters' Improvement Society for the best Filly in Classes 4, 5, and 6, not exceeding three years old, which is registered or entered in the Hunter Stud Book.

² Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Filly in Classes 4, 5 and 6.

³ Champion Gold Medal given by the Hunters' Improvement Society for the best Mare four years and upwards, in Classes 7 and 8.

⁴ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Mare in Class 7.

⁵ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Filly Foal in Class 10.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."

Polo and Riding Ponies.¹

Class 11.—Polo and Riding Pony Stallions, foaled in or before 1905, not exceeding 14 hands 2 inches. [5 entries, none absent.]

- 106 I. (£15, & Champion.²)—STEPHEN MUMFORD, Stud Farm, Moreton Morrell, Warwick, for Spanish Hero 372, brown, foaled 1898, bred by J. G. Mosenthal, Stony Stratford; s. Kilwarlin, d. Spanish Maiden by Merry Hampton.
- 102 II. (£10, & R. N. for Champion.²)—SIR JOHN BARKER, BT., M.P., The Grange, Bishop's Stortford, for Othrae, bay, foaled 1905, bred by W. E. Elsey; s. Raeburn d. Othery by King Monmouth.
- 105 III. (£5.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, for Trysting-Tree, bay, foaled 1905, bred by C. Howard Taylor, Hampole Priory, Doncaster; s. Mountain Ash 298, d. Confidential 934 by Rosewater 37.
- 104 R. N. & H. C.—A. O. HASLEWOOD, Buxton, for Cricket.

Class 12.—Polo and Riding Pony Colts, Fillies, or Geldings, foaled in 1907, not exceeding 13 hands 3 inches. [6 entries, 1 absent.]

- 107 I. (£15.)—SIR JOHN BARKER, BT., M.P., The Grange, Bishop's Stortford, for Ada, chestnut filly; s. Right For'ard 368, d. Jenny Bathurst.
- 108 II. (£10.)—SIR JOHN BARKER, BT., M.P., for Antonio, chestnut colt; s. Right For'ard 368, d. Baby Girl by Sandiway 121.
- 112 III. (£5.)—S. H. MOORHOUSE, Woodlands, Stockport, for Rubric, bay colt; s. Rudheath 182, d. Mignonette 1418.
- 109 R. N. & H. C.—JOHN HURST, St. James's Road, Carlisle, for Peggy Primrose.

Class 13.—Polo and Riding Pony Colts, Fillies, or Geldings, foaled in 1906, not exceeding 14 hands 1 inch. [7 entries, none absent.]

- 113 I. (£15, & R. N. for Champion.³)—SIR JOHN BARKER, BT., M.P., The Grange, Bishop's Stortford, for Florentine, bay filly; s. Sandiway 121, d. Florence 1175.
- 118 II. (£10.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, for The Tutor, bay colt, bred by the Radnorshire Polo and Riding Pony Co. Ltd., The Farm, Bledfa, Llanguillo; s. Schoolmaster 233, d. Oh My 3rd by White Flight 189.
- 117 III. (£5.)—TRESHAM GILBEY, Whitehall, Bishop's Stortford, for Earl Marco, brown gelding; s. Bold Marco 352, d. Early Dawn 611.

Class 14.—Polo and Riding Pony Fillies or Geldings, foaled in 1905, not exceeding 14 hands 1½ inches. [6 entries, none absent.]

- 124 I. (£15.)—TRESHAM GILBEY, Whitehall, Bishop's Stortford, for Tartlet, bay filly, bred by Sir John Barker, BT., M.P., The Grange, Bishop's Stortford; s. Mark For'ard, d. Eau de Rose.
- 122 II. (£10.)—VICE-ADMIRAL SIR FRANCIS B. BRIDGEMAN, Copgrove Hall, via Leeds, for Cattarina, grey filly; s. Carnival 172, d. Erin 1386 by The Arrow.
- 125 III. (£5.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, for Rosamond, chestnut filly, bred by the late Miss Standish, Marwell Manor, Eastleigh; s. Rosewater 37, d. Queenie 745 by Abeyan 2.
- 123 R. N. & H. C.—F. W. CHANCE, M.P., Morton, Carlisle, for May Queen.

Class 15.—Polo and Riding Pony Mares, with Foals at foot, not exceeding 14 hands 2 inches. [4 entries, none absent.]

- 126 I. (£15, & Champion.³)—SIR JOHN BARKER, BT., M.P., The Grange, Bishop's Stortford, for Actress 1560, bay, aged [foal by Right For'ard 368], breeder unknown.
- 127 II. (£10.)—SIR JOHN BARKER, BT., M.P., for Sapphire 1448, bay, aged [foal by Sandiway 121], bred by James Curry, Dowdenstone, Ballymore, Eustace, co. Kildare; s. Pet Fox, d. by Lurgan.
- 129 III. (£5.)—THE KEYNSHAM STUD CO., Amberley Court, Monmouth, for Grey Wings 1394, grey, aged [foal by Trysting Tree], breeder unknown.

Cleveland Bays or Coach Horses.

Class 16.—Cleveland Bay or Coaching Stallions, foaled in 1905 or 1906. [10 entries, 2 absent.]

- 135 I. (£15.)—JOHN LETT, Cleveland Stud Farm, Rillington, York, for Rillington Surprise (Coaching), foaled 1906, bred by Mrs. Slater, Harome, Nawton, York; s. Lord Chief Justice 1214, d. Lady Marjorie 1063 by Beadlam Prince 2248.
- 130 II. (£10.)—GEORGE ELDERS, Toft House, Aislaby, Sleights, R.S.O., Yorks, for Aislaby Hero 1696 (Cleveland Bay), foaled 1906; s. Rosedale 1692, d. Lady Stainthorp 718 by Hillingdon 986.

¹ £50 towards these prizes were given by the Polo and Riding Pony Society.

² Champion Gold Medal given by the Polo and Riding Pony Society for the best Stallion or Colt in Classes 11, 12 and 13.

³ Champion Gold Medal given by the Polo and Riding Pony Society for the best Mare or Filly in Classes 12-15.

1x *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 133 III. (£5.)—BERT KITCHING, Hungate House, Pickering, for **Kitching's Lightfoot** 2472 (Coaching), foaled 1905, bred by W. Robinson, Hawsker, Whitby; s. Barnaby 1832, d. *by* Grand Vizier 1164.

- 139 R. N. & H. C.—F. H. STERICKER, Westgate House, Pickering, for **Kingsway**.

Class 17.—Cleveland Bay or Coaching Fillies, foaled in 1905.

[3 entries.]

- 141 I. (£15.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Woodland Glade** 1106 (Coaching), bred by S. Leaf, Escrick, York; s. Star of Yorkshire 2359, d. Frolicsome 423 *by* Fidius Dins 1592.

- 140 II. (£10.)—GEORGE ELDERS, Toft House, Aislaby, Sleights, R.S.O. for **Hawthorn Beauty** 1293 (Cleveland Bay); s. Rosedale 1692, d. Aislaby Beauty 1169 *by* Prince George 235.

- 142 III. (£5.)—GEORGE SCOBY, Beadlam Grange, Nawton, York, for **Beadlam Beauty** (Coaching), bred by F. Wilson Horsfall, Potto Grange, Northallerton; s. Potto Hutton 1603, d. Potto Queen 1219 *by* King Albert 1075.

Class 18.—Cleveland Bay or Coaching Fillies foaled in 1906. [1 entry.]

- 143 I. (£15.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Woodland Queen** 1126, (Coaching); s. Woodland Pride 1659, d. Topsy 843 *by* Lord Risby 1402.

Class 19.—Cleveland Bay Mares, with Foals at foot. [5 entries, 1 absent.]

- 145 I. (£15.)—GEORGE GRANDAGE, Moor Croft, Yeadon, Leeds, for **Woodland Briar** 1318 (Cleveland Bay), foaled 1902 [foal *by* Woodland Pride 1659], bred by F. Wilson Horsfall, Potto Grange, Northallerton; s. King of the East 1525, d. Horsfall's Progress 948 *by* Cleveland Park 1052.

- 146 II. (£10.)—JOHN LETT, Cleveland Stud Farm, Rillington, York, for **Madeline** 1265 (Cleveland Bay), foaled 1903 [foal *by* Rillington Beacon]; s. Speciality 1562, d. Madam 2nd 997 *by* Luck's All 189.

- 148 III. (£5.)—J. H. TYERMAN, Pond Farm, Hinderwell, for **Aislaby Beauty** 1169 (Cleveland Bay), foaled 1900 [foal *by* Pitch and Toss 1204], bred by George Elders, Toft House, Aislaby, Sleights, R.S.O.; s. Prince George 235, d. Hetty 949 *by* Pitch and Toss 1204.

Hackneys.¹

Class 20.—Hackney Stallions, foaled in 1907. [7 entries, 1 absent.]

- 155 I. (£20.)—ROBERT WHITWORTH, Londesborough Stud, Market Weighton, for **Antonius**, chestnut; s. Polonius 4931, d. Towthorpe Iris 19618 *by* Forest Star 7445.

- 151 II. (£10.)—R. P. EVANS, Woodhatch House, Reigate, for **Woodhatch Rufus**, chestnut; s. Gartonius 9236, d. Mafalda 16001 *by* H.R.H. 2nd 5659.

- 149 III. (£5.)—WALTER BRIGGS, The Hall, Burley-in-Wharfedale, for **Albin Wildfire**, chestnut; s. Polonius 4931, d. Lady Millie 11153 *by* Agility 2799.

- 153 R. N. & H. C.—J. G. & W. T. MITCHELL, Ulgham Manor, Morpeth.

Class 21.—Hackney Stallions, foaled in 1906. [8 entries, 2 absent.]

- 158 I. (£20, & Champion.²)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for **Flash Cadet** 10203, bay; s. His Majesty 2513, d. Lady Cadet 8024 *by* Cadet 1251.

- 161 II. (£10.)—JOHN SMITH, Adderley Stud, Monifieth, for **Adderley** 10054, chestnut; s. Copper King 7764, d. Ring o' Bell 12255 *by* Goldfinder 6th 1791.

- 163 III. (£5.)—HENRY WATSON, Newton Kyme, Tadcaster, for **Newton Marvel** 10343, chestnut; s. St. Thomas 7261, d. Newton Mermaid 17618 *by* Lord Bute 5686.

- 157 R. N. & H. C.—C. S. FLETCHER, The Paddocks, Angram, York, for **Lord Rosador**.

Class 22.—Hackney Stallions, foaled in 1905. [8 entries, none absent.]

- 168 I. (£20, & R. N. for Champion.²)—A. MCKERROW, Camphill, Bearsden, Glasgow, for **King of the West** 10284, chestnut, bred by Thomas & Arthur Hall, Copmanthorpe Grange, York; s. Garton Duke of Connaught 3009, d. Queen of the Dalcs 4617 *by* Eddlethorpe Fireaway 1768.

- 170 II. (£10.)—T. D. & G. R. REED, Beeford Grange, Driffield, for **Spartan**, chestnut, bred by T. D. Reed; s. Polonius 4931, d. Valery 13158 *by* Lord Cave 2551.

- 167 III. (£5.)—JOHN LETT, Cleveland Stud Farm, Rillington, York, for **Rillington Excelsior** 9853, chestnut; s. Polonius 4931, d. Pearly 14654 *by* Rosador 4964.

- 165 R. N. & H. C.—HENRY DALE, Thorpe Bassett, Rillington, York, for **Bonnie Bassett**.

Class 23.—Hackney Fillies, foaled in 1907. [6 entries, 1 absent.]

- 175 I. (£20.)—JOHN SMITH, Adderley Stud, Monifieth, for **Adderley Patch**, chestnut; s. Mathias 6473, d. Ring o' Bell 12255 *by* Goldfinder 6th 1791.

¹ £60 towards these prizes were given by the Hackney Horse Society.

² Champion Gold Medal, value £10, given by the Hackney Horse Society for the best Stallion in Classes 20-22.

Award of Live Stock Prizes at Newcastle, 1908. lxi

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 172 II. (£10.)—R. P. EVANS, Woodhatch House, Reigate, for Woodhatch Maid, chestnut; s. Evanthius 8463, d. District Maid 15039 by Rosador 4964.
 177 III. (£5.)—ROBERT WHITWORTH, Londesborough Stud, Market Weighton, for Liqueur, chestnut, bred by Joseph Thomas, Everingham; s. Polonius 4931, d. Miss Nancy 2nd 30/8 by Lord Derwent 2nd 1034.
 176 R. N. & H. C.—W. B. TUBBS, The Paddocks, Mill Hill, N.W., for Adalace.

Class 24.—Hackney Fillies, foaled in 1906. [6 entries, none absent.]

- 180 I. (£20.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for Flash Clara 19087 chestnut; s. Royal Danegelt 5785, d. Bonnie Clara 6419 by Connaught 1453.
 178 II. (£10.)—STEPHEN CLIFF, Crayke Manor, Easingwold, for Crayke Fairy 19020, chestnut roan, bred by Walter Cliff, Melbourne Hall, York; s. Merry Wildfire 9342, d. Melbourne Fancy 16795 by Danegelt 174.
 182 III. (£5.)—IAIN RAMSAY, Kildalton, for Beckingham Lady Grace 18902, chestnut, bred by R. Surfleet, Beckingham, Gainsborough; s. Beckingham Squire 8070, d. Beckingham Lady Helmsley 14919 by Garton Duke of Connaught 3009.
 183 R. N. & H. C.—R. WHITWORTH, Londesborough Stud, Market Weighton, for Audacity.

Class 25.—For Hackney Fillies, foaled in 1905. [7 entries, 1 absent.]

- 187 I. (£20.)—SIR WALTER GILBEY, BT., Elsenham Hall, Essex, for Lively Birthday 18371, chestnut; s. Polonius 4931, d. Garton Birthday 9970 by Garton Duke of Connaught 3009.
 188 II. (£10.)—H. HINRICHSSEN, Henshall Hall, Congleton, for Ophelia's Daughter Grace 18479, chestnut, bred by F. J. Batchelor, Hopwood, Alvechurch; s. Royal Danegelt 5785, d. Ophelia 1301 by Denmark 177 or Danegelt 174.
 186 III. (£5.)—MRS. E. FLETCHER, The Grange, Angram, York, for Angram Rosarine 18872, chestnut, bred by the late J. B. Barnard, The Moorlands, Haxby; s. Rosador 4964, d. Princess 10428 by Garton Duke of Connaught 3009.
 184 R. N. & H. C.—D. S. CARR, Clyde Vale Stud, Wembley, for Wembley Princess.

Class 26.—Hackney Mares, with Foals at foot, over 14, and not exceeding 15 hands 2 inches. [5 entries, none absent.]

- 193 I. (£20. & R. N. for Champion.¹)—R. P. EVANS, Woodhatch House, Reigate, for Medelia 19337, chestnut, foaled 1904 [foal by Evanthius 8463], bred by Harry Livesey Rotherfield, Sussex; s. Medway 8240, d. Gay Ophelia 11844 by Polonius 4931.
 191 II. (£10.)—DR. ALEX. BOWIE, Poyle Place, Colnbrook, for Billington Majestic 17135, chestnut, foaled 1904 [foal by Prince Rattler 6512], bred by A. Nuttall, Billington, Whalley; s. His Majesty 2513, d. Helen Agnes 8978 by Lord Derby 2nd 417.
 195 III. (£5.)—H. V. SHERINGHAM, South Creake, Fakenham, for Creake Sylvia 15017, chestnut, foaled 1901 [foal by Rosador 4964]; s. Challenger 3013, d. Maidie 11241 by Silvio 4983.
 192 R. N. & H. C.—W. H. CLARK, White Hall, Winestead, Hull, for Winsetts Lily.
 194 Special.²—THOMAS FINLEY, Harperley, R.S.O., for Lavender Bouquet.

Class 27.—Hackney Mares, with Foals at foot, over 15 hands 2 inches. [6 entries, 4 absent.]

- 197 I. (£20 & Champion.¹)—R. P. EVANS, Woodhatch House, Reigate, for District Maid 15039, chestnut, foaled 1901 [foal by Evanthius 8463], bred by A. E. Evans, Bronwyflla, Wrexham; s. Rosador 4964, d. Bury Sunflower 1950 by Rob Roy 1339.
 199 II. (£10.)—W. E. INMAN, Westfield Lodge, Huddersfield, for Silver Ness 12294, chestnut, foaled 1897 [foal by Grand Review 8175]; s. Canny Man 2882, d. Salopia 2nd 8436 by Blaze 2nd 2376.

Class 28.—Hackney Foals, the produce of Mares in Classes 26 and 27. [9 entries, 3 absent.]

- 205 I. (£10.)—R. P. EVANS, Woodhatch House, Reigate, for chestnut colt. [Exhibited with No. 197 in Class 27.]
 210 II. (£5.)—H. V. SHERINGHAM, South Creake, Fakenham, for chestnut colt. [Exhibited with No. 195 in Class 26.]
 203 III. (£3.)—W. H. CLARK, White Hall, Winestead, Hull, for bay filly; s. Skeffling Fircaway 1650, d. Winsetts Lily 9656 by Saxon 2674. [Exhibited with No. 192 in Class 26.]
 207 R. N. & H. C.—THOMAS FINLEY, Harperley, R.S.O.

¹ Champion Gold Medal, value £10, given by the Hackney Horse Society for the best Mare or Filly in Classes 23-27.

² Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Mare or Filly in Classes 23-27.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Hackney Ponies.¹

Class 29.—*Hackney Pony Stallions, foaled in or before 1905, not exceeding 14 hands.* [6 entries, 2 absent.]

- 211 I. (£15.)—D. S. CARR, Clyde Vale Stud, Wembley, for *Torchfire* 9472, brown, foaled 1903, bred by John Jones & Son, Dinarth Hall, Colwyn Bay; s. *Torchlight* 8682, d. *Miss Dot* 12124 by *Julius Cæsar* 2nd 5666.
- 216 II. (£10.)—MISS M. E. KNOTT, St. Martin's, Hooton, Cbester, for *Lord Cæsar* 9791, brown, foaled 1904, bred by John Jones & Son, Dinarth Hall, Colwyn Bay; s. *Julius Cæsar* 2nd 5666, d. *Flower Girl* 8901 by *Sir George* 778.
- 213 III. (£5.)—R. H. CLAYTON, Brandling Hackney Stud, Felling-on-Tyne, for *Gunnergate Wonder*, brown, foaled 1904, bred by Dr. T. M. Clayton, Gateshead; s. *Julius Cæsar* 2nd 5666, d. *The Lady Dector* 13142 by *Little Wonder* 2nd 1610.
- Class 30.**—*Hackney Pony Colts, Fillies, or Geldings, foaled in 1906, not exceeding 13 hands 2 inches.* [6 entries, 2 absent.]
- 221 I. (£15.)—T. P. ROBINSON, Pinderfields Stud Farm, Wigginton, Yorks, for *Aristocratic Pinderfields*, chestnut colt; s. *Polonius* 4931, d. *Doncaster Fanny* 944 by *Danevelt* 174.
- 220 II. (£10.)—MISS LANGWORTHY, Holyport, Maidenhead, for *Holyport Ruby* 10263, black colt, bred by John Makeague, Golborne Park, Newton-le-Willows; s. *Ruby* 1342, d. *Encore* 11789 by *Sir Horace* 5402.
- 217 III. (£5.)—R. H. CLAYTON, Brandling Hackney Stud, Felling-on-Tyne, for *Brandling Royal Princess*, bay filly; s. *Julius Cæsar* 2nd 5666, d. *Gordon Belle* 8950 by *General Gordon* 2084.
- 222 R. N. & H. C.—THE SEAHAM HARBOUR STUD LTD., for *Seaham Nivette*.

Class 31.—*Hackney Pony Fillies or Geldings, foaled in 1905, not exceeding 13 hands 3 inches.* [2 entries, 1 absent.]

- 223 (£15 & Special.²)—JOHN FORBES, Bute House, Park Road, Middlesbrough, for *Seaham Norah* 18583, brown filly, bred by the Seaham Harbour Stud, Ltd., Seaham Harbour; s. *Sir Horace* 5402, d. *Benton Nena* 15611 by *Tom Tit* 2nd 5040.

Class 32.—*Hackney Pony Mares, with Foals at foot, not exceeding 14 hands.* [2 entries.]

- 226 I. (£15. & R. N. for Special.²)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for *Benton Nena* 15611, brown, foaled 1901 [foal by *Monte Cristo* 7933], bred by the late Eustace Smith, Newcastle-upon-Tyne; s. *Tom Tit* 2nd 5040, d. *Nena* 1081.
- 225 II. (£10.)—R. H. CLAYTON, Brandling Hackney Stud, Felling-on-Tyne, for *Princess Horace* 19434, bay, foaled 1900 [foal by *Gunnergate Cæsar* 8881], bred by Roy. B. Charlton, Queens Letch Farm, Hexham; s. *Sir Horace* 5402, d. *Princess Mab* by *Little Wonder* 2nd 1610.

Shetland Ponies.

Class 33.—*Shetland Pony Stallions, foaled in or before 1905, not exceeding 10½ hands.* [11 entries, 2 absent.]

- 235 I. (£10, & Champion.³)—WILLIAM MUNGALL, Transy, Dunfermline, for *Seaweed* 333, black, foaled 1901, bred by the Ladies E. and D. Hope, Great Hollenden, Underriver, Sevenoaks; s. *Oman* 33, d. *Sea Serpent* 1535 by *Oman* 33.
- 228 II. (£5 & R. N. for Champion.³)—CHARLES DOUGLAS, Auchlochan, Lesmahagow, for *Crown Prince* 342, brown, foaled 1902; s. *Frederick* 223, d. *Brossolis* 1193 by *Odin* 32.
- 236 III. (£3.)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for *Velocity* 232, black, foaled 1896, bred by the Marquis of Londonderry, K.G., Seaham Hall, Seaham Harbour; s. *Oman* 33, d. *Vemunda* 678 by *Odin* 32.
- 233 R. N. & H. C.—R. W. R. MACKENZIE, Earlsball, Leuchars, for *Helmet of Earlsball*.

Class 34.—*Shetland Pony Mares, foaled in or before 1905, not exceeding 10½ hands.* [6 entries, 2 absent.]

- 240 I. (£10.)—R. W. R. MACKENZIE, Earlsball, Leuchars, for *Bracelet* 1604, mouse black, foaled 1897 [foal by *Halder* 270], bred by the Marquis of Londonderry, K.G., Bressay, Shetland; s. *Thor* 83, d. *Bretta* 811 by *Odin* 32.

¹ £40 towards these Prizes were given by the Hackney Horse Society.

² Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Mare or Filly in Classes 30-32.

³ Silver Medal given by the Shetland Pony Stud-Book Society for the best Stallion in Class 33.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 241 II. (£5.)—R. W. R. MACKENZIE, for **Southdown of Earlsall**, black, foaled 1904 [foal *by* Duncan 147; s. Rattler 210, d. Snowdon 1112 *by* Thor 83.
 238 III. (£3.)—R. W. CRESWELL-WARD, Neasbam Hill, Darlington, for **Music**, dark brown, foaled 1901, bred *by* C. Cane, Rydal Estate Office, Ambleside; s. Montgomery 175, d. Missie 1180 *by* Muness 124.

Highland or Fell Ponies.¹

Class 35.—*Highland or Fell Pony Stallions, foaled in or before 1905, not exceeding 14 hands 2 inches.* [4 entries, none absent.]

- 246 I. (£10.)—LORD MIDDLETON, Birdsall House, York, for **Comoraich** (Highland), grey, foaled 1901; s. Borodale, d. *by* Glen.
 247 II. (£5.)—G. N. RODDAM, Billing Sbiolds, Eastgate, S.O., Weardale, for **Mountain Hero** 2nd 5270 (Fell), bay, foaled 1897, bred *by* James Spencer, Murrah Hall, Greystone, Penrith; s. Young Mountain Hero, d. Black Bess *by* Fitz George.
 245 III. (£3.)—J. H. MUNRO MACKENZIE, Culgary, Isle of Mull, for **Skerryvore** (Highland), grey, foaled 1905; s. Islesman 253, d. White Polly 1322.

Class 36.—*Highland or Fell Pony Mares, foaled in or before 1905, not exceeding 14 hands 2 inches.* [1 entry.]

- 248 I. (£10.)—J. H. MUNRO MACKENZIE, Culgary, Isle of Mull, for **Gometra** 1686 (Highland), grey, foaled 1904; s. Islesman 253, d. White Polly 1322.

Dales Ponies.²

Class 37.—*Dales Pony Stallions, foaled in or before 1905, not exceeding 14 hands 2 inches.* [2 entries.]

- 249 I. (£10.)—ROBERT BLACKETT, Emmerson House, Butterknowle, Durham, for **Real Fashion** 6096, black, foaled 1897; s. Perfect, d. Polly *by* Trotting Tom.
 250 II. (£5.)—J. W. PEART, White Hills, Ireshopeburn, for **Weardale Hero**, brown, foaled 1902; s. Teesdale Comet, d. Nina *by* Blooming Heatber.

Class 38.—*Dales Pony Mares, foaled in or before 1905, not exceeding 14 hands 2 inches.* [5 entries, none absent.]

- 255 I. (£10.)—JOHN TOWNSON, Hilton Moor, Bishop Auckland, for **White Heather** 5357, grey, foaled 1903, bred *by* Joseph Townson, Broadless Gate, Middleton-in-Teesdale; s. Teesdale Comet, d. Merry *by* Black Jock.
 252 II. (£5.)—JOSEPH BLACKETT, Copley Farm, Butterknowle, for **Maid of Honour** 6095, black, foaled 1900; s. Real Fashion, d. Darkey *by* Pride of the North.
 254 III. (£3.)—T. M. REED, Pringle House, Brandon, for **Bluebell**, grey, foaled 1905, bred *by* A. Watson, Ankside, Middleton-in-Teesdale.
 251 R. N. & H. C.—E. M. ATTWATER, 106, Wingrove Road, Newcastle-upon-Tyne, for **Bessie**.

Shires.³

Class 39.—*Shire Stallions, foaled in 1907.* [9 entries, 4 absent.]

- 261 I. (£20.)—M. A. MARTINEZ-DE-HOZ, Berkeley House, Berkeley Square, W., for **Pendley Champion**, brown, bred *by* J. G. Williams, Pendley Manor, Tring; s. Redlynch Forest King 23626, d. Dorothy of Waresley 41743 *by* Castle Bromwich Keith.
 259 II. (£10.)—EARL EGERTON OF TATTON, Tatton Park, Cheshire, for **Tatton Prior**, bay, bred *by* Stanley Hayr, Church Langton, Market Harborough; s. Tatton Friar 21953, d. Beauty 40844 *by* Ercall Wynn 14620.
 260 III. (£5.)—W. T. EVERARD, Bardon Hall, Leicester, for **Bardon Forest Prince**, bay, bred *by* J. Hill, Little Eaton, Derby; s. Lockinge Forest King 18867, d. Slackfield Fuchsia 40158 *by* Codnor Harold 17266.
 263 R. N. & H. C.—SIR P. A. MUNTZ, BT., M.P., for **Dunsmore Perfection**.

Class 40.—*Shire Stallions, foaled in 1906.* [9 entries, 2 absent.]

- 271 I. (£20, & Champion.)—LORD ROTHSCHILD, Tring Park, Herts, for **Halstead Royal Duke** 25255, bay, bred *by* John Bradley, Halstead, Tilton, Leicester; s. Lockinge Forest King 18867, d. Halstead Duchess 3rd 42121 *by* Menestrel 14180.
 268 II. (£10.)—F. E. MUNTZ, Umberlade, Hockley Heath, for **General of Hothfield** 25229, bay, bred *by* Lord Hothfield, Hothfield Place, Ashford, Kent; s. Hutton Victor Chief 19711, d. Cocon of Hothfield 41444 *by* Yule Log of Hothfield 18463.

¹ £16 towards these prizes were given by gentlemen interested in the breed.

² £16 towards these Prizes were given by gentlemen interested in the breed.

³ £70 towards these Prizes were given by the Shire Horse Society.

⁴ Champion Gold Medal, value £10, given by the Shire Horse Society for the best Stallion in Classes 39-41.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 273 **III. (£5).**—H. H. SMITH-CARINGTON, Ashby Folville, Melton Mowbray, for **Ivy Victor Chief** 25310, bay, bred by the late Pablo L. Mills, Ruddington Hall, Nottingham : s. Intake Albert 20596, d. Caper Sauce 28003 by Calwich Victor 16043.

- 267 **R. N. & H. C.**—JAMES GOULD, Croucbley, Lymm, for **Lymm Squire**.

- 265 **Special.**¹—GEORGE ALLISON, Link House, Whitley Bay, for **Hawsker Forest King**.

Class 41.—Shire Stallions, foaled in 1905. [4 entries, 2 absent.]

- 275 **I. (£20, & R. N. for Champion.**²)—F. E. MUNTZ, Umberslade, Hockley Heath, for **King Forest** 24347, brown, bred by H. R. Craig, Welham Lodge, Market Harborough ; s. Lockinge Forest King 18867, d. Lockinge Dimple 29261 by Lockinge Warrior 15700.

- 276 **II. (£10).**—SIR P. A. MUNTZ, BT., M.P., Dunsmore, Rugby, for **Dunsmore Peer**, bay ; s. Dunsmore Jameson 17972, d. Royal Duchess 24648 by Calwich Marksman 12873.

Class 42.—Shire Fillies, foaled in 1907. [8 entries, 2 absent.]

- 283 **I. (£20).**—LORD ROTHSCHILD, Tring Park, Herts, for **Danesfield Champion Duchess**, bay, bred by R. W. Hudson, Danesfield, Marlow ; s. Childwick Champion 22215, d. Poole Duchess 39890 by Hendre Baronet 16714.

- 282 **II. (£10).**—SIR P. A. MUNTZ, BT., M.P., Dunsmore, Rugby, for **Dunsmore Girl**, bay, bred by Bernard Wall, Hazelwood, Colesbill ; s. Dunsmore Jameson 17972, d. Hendre Girl 21898 by Dunsmore Willington Boy 13021.

- 285 **III. (£5).**—J. G. WILLIAMS, Pendley Manor, Tring, for **Pendley Princess**, bay, bred by W. Grewcock, Lindridge, Desford, Leicester ; s. Lockinge Forest King 18867, d. Princess 49083 by Fauld Charming 14629.

- 281 **R. N. & H. C.**—F. E. MUNTZ, Umberslade, Hockley Heath, for **Umberslade Victoria**.

Class 43.—Shire Fillies, foaled in 1906. [11 entries, 4 absent.]

- 287 **I. (£20).**—SIR WALPOLE GREENWELL, BT., Marden Park, Woldingham, for **Marden Peach** 54607, bay ; s. Lockinge Forest King 18867, d. Marden Pride 48686 by Codnor Harold 17266.

- 294 **II. (£10).**—H. H. SMITH-CARINGTON, Ashby Folville, Melton Mowbray, for **Folville Festive** 53910, bay, bred by Messrs. Houghton, Cold Newton, Melton Mowbray ; s. Benedick 17761, d. Holker Festive 32499 by Hendre Crown Prince 16177.

- 290 **III. (£5).**—SIR P. A. MUNTZ, BT., M.P., Dunsmore, Rugby, for **Dunsmore Quicklime** 53732, bay, bred by James E. Thurman, Birkbolme House, Grantham ; s. Dunsmore Jameson 17972, d. Monks Mabel 25610 by Carlton Banker 9017.

- 291 **R. N. & H. C.**—LORD ROTHSCHILD, Tring Park, Herts, for **Cattlegate Rose**.

Class 44.—Shire Fillies, foaled in 1905. [4 entries, 2 absent.]

- 297 **I. (£20, & R. N. for Champion.**³)—EARL EGERTON of TATTON, Tatton Park, Cheshire, for **Wimbledon Eldorado**, brown, bred by T. Simpson Jay, Warren Farm, Wimbledon ; s. Tatton Friar 21953, d. Eldorado 44843 by Blaisdon Premier 17173.

- 298 **II. (£10).**—SIR WALPOLE GREENWELL, BT., Marden Park, Woldingham, for **Misty Morn** 51759, bay, bred by Lord Rothschild, Tring Park, Herts ; s. Birdsall Menestrel 19337, d. Crossmoor 41519 by Crossmoor Carbon 19525.

Class 45.—Shire Mares, with Foals at foot. [16 entries, 7 absent.]

- 301 **(£20, & Champion.**³)—JOHN BRADLEY, Halstead, Tilton, Leicester, for **Halstead Duchess** 3rd 42121, brown, foaled 1902 [foal by Lockinge Forest King 18867] ; s. Menestrel 14180, d. Halstead Lady Harold 28812 by Markeaton Royal Harold 15225.

- 309 **II. (£10).**—H. H. SMITH-CARINGTON, Ashby Folville, Melton Mowbray, for **Northenden Blossom** 45864, brown, foaled 1903 [foal by Benedick 17761], bred by J. J. Travis, Park House Farm, Northenden ; s. Rocket 5th 17560, d. Mere Carbonic 20415 by Carbon 3523.

- 315 **III. (£5).**—W. & H. WHITLEY, Primley Farm, Paignton, for **Quality** 46043, grey, foaled 1903 [foal by Dunsmore Premier 25160], bred by L. Maclean, Newton, Longueville, Bletchley ; s. Dunsmore Jameson 17972, d. Withcote Quality 2nd 34517 by Dunsmore Masterman 12874.

- 314 **R. N. & H. C.**—W. & H. WHITLEY, for **Mollington Movement**.

Class 46.—Shire Colt Foals, the produce of Mares entered in Class 45.

[6 entries, 3 absent.]

- 317 **I. (£10).**—JOHN BRADLEY, Halstead, Tilton, Leicester, for bay. [Exhibited with No. 301 in Class 45.]

- 322 **II. (£5).**—W. & H. WHITLEY, Primley Farm, Paignton. [Exhibited with No. 315 in Class 45.]

- 321 **III. (£3).**—W. & H. WHITLEY, for bay ; s. Tatton Friar 21953, d. Ashleigh Royal Duchess 50089 by Lockinge Forest King 18867. [Exhibited with No. 312 in Class 45.]

¹ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Stallion in Classes 39-41.

² Champion Gold Medal, value £10, given by the Shire Horse Society for the best Stallion in Classes 39-41.

³ Champion Gold Medal, value £10, given by the Shire Horse Society for the best Mare or Filly in Classes 42-45.

Award of Live Stock Prizes at Newcastle, 1908. lxv

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 47.—*Shire Filly Foals, the produce of Mares entered in Class 45.*

[9 entries, 4 absent.]

- 327 I. (£10).—SIR BERKELEY G. D. SHEFFIELD, BT., M.P., Normanby Park, Doncaster, for bay; s. Norbury Menestrel 23543, d. Norbury Corona 42846 by Norbury Harold 18977. [Exhibited with No. 308 in Class 45.]
- 325 II. (£5).—F. E. MUNTZ, Umberslade, Hockley Heath, for bay; s. King Forest 24347, d. Aldeby Lady Jameson 46847 by Dunsmore Jameson 17972. [Exhibited with No. 304 in Class 45.]
- 330 III. (£3).—W. & H. WHITLEY, Primley Farm, Paignton, for bay. [Exhibited with No. 314 in Class 45.]
- 324 R. N. & H. C.—H. S. LEON, Bletchley Park, Bucks, for brown.

Clydesdales.¹

Class 48.—*Clydesdale Stallions, foaled in 1907.* [13 entries, 2 absent.]

- 337 I. (£20, & R. N. for Champion.²)—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for brown, bred by G. & J. Cocker, Hill of Petty, Fyvie; s. Baron's Pride 9122, d. Lady Ida 15438 by Prince Thomas 10262.
- 335 II. (£10).—JAMES KILPATRICK, Craigie Mains, Kilmarnock, for bay, bred by Robert Park, Brunstane, Portobello; s. Marmion 11429, d. White Stockings 16140 by McVinnie 9318.
- 344 III. (£5).—W. R. TROTTER, North Acomb, Stocksfield-on-Tyne, for Silver Crest, bay, bred by Thomas O'Malley, Woodlands, Raheny, co. Dublin; s. Copper King 13416, d. Silver Belle by Silver Cup 11184.
- 342 R. N. & H. C.—J. TOWNSON, Hilton Moors, Bishop Auckland, for Lothian Scott.

Class 49.—*Clydesdale Stallions, foaled in 1906.* [10 entries, 3 absent.]

- 345 I. (£20, Champion,² & Special.³)—ROBERT BRYDON, The Dene, Seaham Harbour, for Bonnie Buchlyvie 14032, bay, bred by W. Stirling & Sons, Darlingfield, Kelso; s. Baron of Buchlyvie 11263, d. Queen of Beauty 14850 by Macgregor 1487.
- 347 II. (£10).—WILLIAM GRAHAM, Eden Grove, Bolton, Westmorland, for On Guard 14293, brown, bred by G. Pendreigh, Dalhousie, Bonnyrigg; s. Prince Sturdy 10112, d. Lady Pride 14761 by Baron's Pride 9122.
- 349 III. (£5).—JAMES KILPATRICK, Craigie Mains, Kilmarnock, for Baron Belmont 13973, bay, bred by Andrew Cochrane, Fyfa Farm, Alyth; s. Baron of Buchlyvie 11263, d. Agnata 17475 by Sir Christopher 10286.
- 354 R. N. & H. C.—WILLIAM PARK, Hedley West House, Swalwell, for Baron Hedley.

Class 50.—*Clydesdale Stallions, foaled in 1905.* [10 entries, 3 absent.]

- 360 I. (£20).—A. & W. MONTGOMERY, Netherhall and Banks, Kirkcudbright, for Ryecroft 13722, bay, bred by Charles Christie, South Tillytarmont, Rothiemay; s. Everlasting 11331, d. June Rose 17461 by Prince Thomas 10262.
- 362 II. (£10, & R. N. for Special.³)—JOHN T. PEACOCK, Low Newport Farm, Silks-worth, Sunderland, for King Harry 14199, black; s. Silver Cup 11184, d. Queen Mary 14360 by Scottish Crown 9851.
- 363 III. (£5).—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for Silver Stamp 13753, brown; s. Silver Cup 11184, d. Beauty 12534 by Cairnbrogie Stamp.
- 357 R. N. & H. C.—A. B. MATTHEWS, Newton Stewart, for Nigel.

Class 51.—*Clydesdale Fillies, foaled in 1907.* [12 entries, 4 absent.]

- 367 I. (£20).—J. ERNEST KERR, Harviestoun Castle, Dollar, for Ferelith, bay; s. Royal Favourite 10630, d. Pyrene 19757 by Baron's Pride 9122.
- 374 II. (£10).—D. Y. STEWART, Carse of Trowan, Crieff, for Roseen, light bay, bred by James Fleming, Bent Farm, Strathaven; s. Revelenta 11876, d. Bent Rose 16670 by Montrave Mac 9958.
- 376 III. (£5).—W. M. WOOD, Drawdykes Castle, Carlisle, for Princess Cedric, brown s. Marmion 11429, d. Cedric Princess 15273 by Baron's Pride 9122.
- 368 R. N. & H. C.—J. ERNEST KERR, for Mira.

Class 52.—*Clydesdale Fillies, foaled in 1906.* [8 entries, 1 absent.]

- 380 I. (£20 & Champion.⁴)—J. ERNEST KERR, Harviestoun Castle, Dollar, for Nerissa, bay; s. Baron's Pride 9122, d. Nellie of Harviestoun 16782, by Royal Favourite 10630.
- 381 II. (£10).—STEPHEN MITCHELL, Boquhan, Kippen Station, for Boquhan Lady Peggy, brown, bred by D. & G. Curr, Red House, Carlisle; s. Hiawatha 10067, d. Lady Peggy 15453 by Baron's Pride 9122.

¹ £50 towards these Prizes were given by the Clydesdale Horse Society.

² Champion Prize of £10 given by the Clydesdale Horse Society for the best Stallion in Classes 48-50.

³ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Stallion in Classes 48-50.

⁴ Champion Prize of £10 given by the Clydesdale Horse Society for the best Mare or Filly in Classes 51-54.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 379 III. (£5.)—DAVID A. HOOD, Balgreddan, Kirkcudbright, for Princess Royal, bay, bred by Homer Young, Redhills, Collin, Dumfries; s. Royal Edward 11495, d. Nancy 18541 by Carbineer 10522.

Class 53.—*Clydesdale Fillies, foaled in 1905.* [6 entries, 2 absent.]

- 386 I. (£20.)—J. ERNEST KERR, Harviestoun Castle, Dollar, for Marilla, black, bred by J. J. Moubray, Naemoor, Rumbling Bridge; s. Baron's Pride 9122, d. Mona 2nd 14731 by Prince of Cathcart 8915.
389 II. (£10, & Special.¹)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for Silver Pansy, bay, bred by G. H. Procter, Flass House, Durham; s. Silver Cup 11184, d. Muriel 15784 by Gallant Prince 10552.
390 III. (£3.)—JOSEPH TOWNSON, Marton Timmouth, Heighington, Darlington, for Silver Baroness (vol. 29, p. 199), black; s. Silver Cup 11184, d. Lady Alice 15851 by Ryecorn 10639.
385 R. N. & H. C.—THE ASHINGTON COAL CO., LTD., Morpeth, for Princess.

Class 54.—*Clydesdale Mares, with Foals at foot.* [13 entries, 5 absent.]

- 397 I. (£20, & R. N. for Champion.²)—STEPHEN MITCHELL, Boquhan, Kippen Station for Royal Ruby, brown, foaled 1900 [foal by British Chief 12500], bred by Thomas Smith, Blaenau Point, Chester; s. Baron's Pride 9122, d. Royal Rose 12494 by McGregor 1487.
396 II. (£10.)—STEPHEN MITCHELL, for Minnewawa, brown, foaled 1904 [foal by Oyama], bred by St. Clair Cunningham, Hedderwick Hill, Dunbar; s. Hiawatha 10067, d. White Heather 16022 by Baron's Pride 9122.
394 III. (£5.)—H. B. MARSHALL, Rachan, Broughton, Peeblesshire, for Mimosa 16911, bay, foaled 1898 [foal by Royal Favourite 10630], bred by Adam Gray, Ingleston, Borgue, Kirkcudbright; s. Baron's Pride 9122, d. Barr Girl 12496 by Top Knott 6360.
393 R. N. & H. C.—JOHN KERR, Red Hall, Wigton, for Silloth Lady.
403 Special.³—THE SEAHAM HARBOUR STUD, LTD., for Sunshine.

Class 55.—*Clydesdale Foals, the produce of Mares entered in Class 54.*

[9 entries, 2 absent.]

- 407 I. (£10.)—STEPHEN MITCHELL, Boquhan, Kippen Station, for black colt. [Exhibited with No. 396 in Class 54.]
412 II. (£5, & Special.⁴)—THE SEAHAM HARBOUR STUD, LTD., The Dene, Seaham Harbour, for Silver Shine, bay filly. [Exhibited with No. 403 in Class 54.]
406 III. (£3.)—H. B. MARSHALL, Rachan, Broughton, Peeblesshire, for bay filly. [Exhibited with No. 394 in Class 54.]
408 R. N. & H. C.—STEPHEN MITCHELL, for colt. [Exhibited with No. 397 in Class 54.]
410 Special.⁵—THE SEAHAM HARBOUR STUD, LTD., for Silver Knight. [Exhibited with No. 400 in Class 54.]

Suffolks.⁶

Class 56.—*Suffolk Stallions, foaled in 1906.* [11 entries, 4 absent.]

- 419 I. (£20.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for Bawdsey Marshal Ney 3385; s. Napolian 2933, d. Bawdsey Mary 4910 by Prince Wedgewood.
413 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for Sudbourne Neptune 3463, bred by R. H. & H. M. Wrinch, Harkstead, Ipswich; s. Sudbourne Sunshine 3374, d. Mermaid 4282 by Lowestoft 1939.
415 III. (£5.)—THE MARQUIS OF GRAHAM, Easton Park, Wickham Market, for Easton Duke 3517, bred by S. G. Carley, Framlingham; s. Dennington Cupbearer 3086, d. Belle 3688 by Wedgewood 2nd 2045.
418 R. N. & H. C.—A. T. PRATT, Morston Hall, Trimley, Ipswich, for Morston Mariner.

Class 57.—*Suffolk Stallions, foaled in 1905.* [3 entries.]

- 426 I. (£20, & Champion.⁷)—ALFRED J. SMITH, Rendlesham, Woodbridge, for Rendlesham Major Gray 3278, bred by William Gray, Parham Hall, Wickham Market; s. Saturn 2653, d. Daisy 4398 by Sutton Swell 2686.

¹ Special Prize of £10, given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Filly in Classes 51-53.

² Champion Prize of £10, given by the Clydesdale Horse Society for the best Mare or Filly in Classes 51-54.

³ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of these Societies only, for the best Mare in Class 54.

⁴ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Filly Foal in Class 55.

⁵ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Colt Foal in Class 55.

⁶ £20 towards these Prizes were given by the Suffolk Horse Society.

⁷ Challenge Cup, value Fifty Guineas, given by the Suffolk Horse Society for the best Stallion in Classes 56 and 57, the Cup to become the absolute property of an Exhibitor winning it three times.

Award of Live Stock Prizes at Newcastle, 1908. lxvii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

424 II. (£10, & R. N. for Champion.¹)—KENNETH M. CLARK, Sudbourne Hall, Orford, for *Sudbourne Arab* 3309; s. *Sudbourne Count* 3257, d. *Sudbourne Arabelle* 5472 by *Wedgewood* 1749.

425 III. (£5.)—ARTHUR T. PRATT, Morston Hall, Trimley, Ipswich, for *Morston Tip Top* 3282; s. *Golden Grain* 2479, d. *Rookery Grace* 5133 by *Jupiter* 2533.

Class 58.—*Suffolk Fillies, foaled in 1906.* [4 entries.]

430 I. (£20.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for *Sutton Jewell* 5789; s. *Sudbourne Count* 3257, d. *Sutton Ruby* 5689 by *Warrior* 1938.

428 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for *Sudbourne Lassie* 5915, bred by Jephtha Capon, Dennington, Framlingham; s. *Dennington Minstrel* 3096, d. *Lady* 4620 by *Sutton Swell* 2686.

427 III. (£5.)—KENNETH M. CLARK, for *Sudbourne Daylight* 5924, bred by W. G. Munnings, Mendham, Harleston; s. *Dennington Cupbearer* 3086, d. *Twilight* 5369 by *Homocea* 2643.

429 R. N. & H. C.—ROBERT EDGAR, Knight's Hill, Cockfield, for *Cockfield Gracious*.

Class 59.—*Suffolk Fillies, foaled in 1905.* [5 entries, 2 absent.]

435 I. (£20.)—ALFRED J. SMITH, Rendlesham, Woodbridge, for *Rendlesham Wedgy* 5490; s. *Saturn* 2653, d. *Rendlesham Wedge* 4371 by *Leiston Friar* 2520.

432 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for *Sudbourne Mermaid* 6012, bred by R. H. & H. M. Winch, Harkstead, Ipswich; s. *Sunshine* 2734, d. *Mermaid* 4282 by *Lowestoft* 1999.

433 III. (£5.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for *Puck* 6051, bred by Major A. W. Cobbold, Hollesley, Suffolk; s. *Prince Albert* 2525, d. *Prude* 3753 by *Democrat* 2044.

Class 60.—*Suffolk Mares, with Foals at foot.* [6 entries, 1 absent.]

441 I. (£20.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for *Ramsholt Princess* 4949, foaled 1901 [foal by *Bawdsey Harvester* 3076]; s. *Prince Wedgewood* 2364, d. *Ramsholt Beauty* 3590 by *Queen's Diadem* 1721.

437 II. (£10.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for *Sudbourne Surprise* 5527, foaled 1904 [foal by *Sudbourne Sunshine* 3374], bred by A. T. Pratt, Sproughton Hall, Ipswich; s. *Saturn* 2653, d. *Winnipeg* 3494 by *Czar* 1754.

439 III. (£5.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for *Bawdsey Proud Lady* 5655, foaled 1903 [foal by *Bawdsey Harvester* 3076]; s. *His Grace* 2737, d. *Primrose Darby* 4659 by *Wedgewood* 1749.

438 R. N. & H. C.—ROBERT EDGAR, Knights Hill, Cockfield, for *Betty*.

Draught Geldings.²

Class 61.—*Geldings, in hand, foaled in 1904 or 1905.* [10 entries, 1 absent.]

447 I. (£20.)—WILLIAM GRIFFITHS, Castlesteads, Plumpton, Penrith, for *Major* (Clydesdale), bay, foaled 1904.

446 II. (£10.)—THOMAS BURTON, Sandcliffe House, Raskelf, Easingwold, for *Sandcliffe Waggoner* (Shire), foaled 1904, bred by Capt. W. H. O. Duncombe, Waresley Park, Huuts; s. *Castle Bromwich Keith* 17865, d. *Packington Brave Girl* by *Measham Chief*.

445 III. (£5.)—PETER BEATON, 12, West Burn Square, Greenock, for *Dandy* (Clydesdale), grey, foaled 1904.

444 R. N. & H. C., & (Special.³)—JOHN BATY, Heathery Shank Farm, Fenham, Newcastle-upon-Tyne, for *Farmer* (Clydesdale), dark brown, foaled 1904, bred by Mr. Jackson, Dockray Hall, Wigton; s. *Speciality* 11547.

Riding Classes.²

Class 62.—*Hunter Mares or Geldings, foaled in 1904, up to from 12 to 14 stone.* [12 entries, 2 absent.]

459 I. (£20.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for *Expert*, bay gelding, bred by A. P. Payne-Gallwey, Bakewell; s. *Methuen*, d. *Anvil* by *Autocrat*.

455 II. (£10.)—WILLIAM GALE, Waltham, Melton Mowbray, for chestnut gelding.

461 III. (£5.)—J. H. STOKES, for *Regina*, chestnut mare.

462 R. N. & H. C.—T. & H. WARD, Pinchinthorpe, Great Ayton, for *Adonis*.

¹ Challenge Cup, value Fifty Guineas, given by the Suffolk Horse Society for the best Stallion in Classes 56 and 57, the cup to become the absolute property of an Exhibitor winning it three times.

² Prizes given by the Newcastle Local Committee.

³ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Draught Gelding in Class 61.

lxviii *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 63.—Hunter Mares or Geldings, foaled in 1904, up to more than 14 stone.
[14 entries, 3 absent.]

- 472 I. (£20.)—GILBERT ROBINSON, Hinwick Hall, Wellingborough, for Hackless, bay or brown mare, bred by R. Downes, Russelstown, Mullingar; s. Hackler, d. Verily by Stylites.
474 II. (£10.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for Belligerent, bay gelding, bred by J. Singlehurst, Weldon, Kettering; s. Barbarian.
465 III. (£5.)—WILLIAM GALE, Waltham, Melton Mowbray, for Favour, chestnut gelding.
467 R. N. & H. C.—C. W. C. HENDERSON, The Riding, Hexham, for Sportsman.

Class 64.—Hunter Mares or Geldings, Novices, foaled in or before 1903, up to from 12 to 14 stone. [18 entries, 4 absent.]

- 481 I. (£20.)—JOHN DRAGE, Chapel Brampton, Northampton, for Bentinck, brown gelding, foaled 1902.
490 II. (£10.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for Newark, chestnut gelding, foaled 1903, bred by Mr. Cooney, Nenagh; s. Tipperary Boy, d. by Sheldrake.
478 III. (£5.)—LORD ALLENDALE, Bywell Hall, Stocksfield-on-Tyne, for Good Friday, brown gelding, foaled 1902, bred by John Angus, Whitefield, Morpeth; s. Kilmarnock, d. Sadness.
493 R. N. & H. C.—T. & H. WARD, Pinchinthorpe, Great Ayton, for Bertram.

Class 65.—Hunter Mares or Geldings, Novices, foaled in or before 1903, up to more than 14 stone. [16 entries, 2 absent.]

- 508 I. (£20, & Special.¹)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for Astral, chestnut gelding, foaled 1903, bred by J. Carpenter, Meath; s. Ashton by Brown Prince.
499 II. (£10.)—JOHN DRAGE, Chapel Brampton, Northampton, for Stanford Park, bay gelding, foaled 1902.
506 III. (£5.)—VISCOUNT RIDLEY, Blagdon, Cramlington, for Pattern, brown gelding, foaled 1902, bred by S. Codrington, Chipping Sodbury; s. Louis 13th, d. Flower Girl.
511 R. N. & H. C.—F. B. WILKINSON, Cavendish Lodge, Edwinstowe, Newark, for Request.

Class 66.—Hunter Mares or Geldings, foaled in or before 1904, up to from 12 to 13 stone 7 lb. [15 entries, 2 absent.]

- 489 I. (£20.)—J. H. STOKES, Nether House, Great Bowden, Market Harborough, for Bayard, bay gelding, foaled 1903, bred by Mr. Daniels, Oakham; s. Upston.
481 II. (£10.)—JOHN DRAGE, for Bentinck. (See Class 64.)
512 III. (£6 & Special.²)—MRS. BURRELL, Carham Hall, Coldstream, for Radiance, brown mare, foaled 1903, bred by the late Brigham Harland, Bishop Burton, Beverley; s. Shancrotha, d. Miss Rhodes.
490 IV. (£4.)—J. H. STOKES, for Newark. (See Class 64.)
515 R. N. & H. C.—H. WATSON, Benton Lodge, Long Benton, for Merrythought.

Class 67.—Hunter Mares or Geldings, foaled in or before 1904, up to more than 13 stone 7 lb. and not more than 15 stone. [18 entries, 1 absent.]

- 518 I. (£20.)—W. A. SIMPSON HINCHCLIFFE, 9 Park Parade Stables, Harrogate, for Broadwood, brown gelding, foaled 1903, bred by J. Richardson, Saltown, York; s. Red Eagle, d. by Selby.
516 II. (£10.)—MRS. BURRELL, Carham Hall, Coldstream, for Whisky, bay gelding, foaled 1899, bred by P. Gilsinan, Trim, co. Meath; s. Sir Patrick, d. by Play Actor.
474 III. (£6.)—J. H. STOKES, for Belligerent. (See Class 63.)
499 IV. (£4.)—JOHN DRAGE, for Stanford Park. (See Class 65.)
506 R. N. & H. C.—VISCOUNT RIDLEY, for Pattern. (See Class 65.)

Class 68.—Hunter Mares or Geldings, foaled in or before 1904, up to more than 15 stone. [9 entries, none absent.]

- 508 I. (£20.)—J. H. STOKES, for Astral. (See Class 65.)
526 II. (£10.)—W. A. SIMPSON HINCHCLIFFE, 9, Park Parade Stables, Harrogate, for Silver Thorn, chestnut gelding, foaled 1901, bred by P. Fox, Quay Street Dundalk; s. Slievegallion, d. by Roddomonck.

¹ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Hunter Gelding in Classes 62-68.

² Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Hunter Mare in Classes 62-68.

Award of Live Stock Prizes at Newcastle, 1908. lxi

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 509 III. (£6.)—J. H. STOKES, for **Bullace**, bay gelding, foaled 1903.
 523 IV. (£4.)—JOHN CLAY, 4030, Lake Avenue, Chicago, U.S.A., for **Sir Lancelot**, chestnut gelding, foaled 1898.
 522 R. N. & H. C.—T. LAWSON BELL, High Seat, Wylam-on-Tyne, for **Peter**.
Class 69.—*Polo and Riding Pony Mares or Geldings, foaled in 1903 or 1904, not exceeding 14 hands 2 inches.* [5 entries, none absent.]
 529 I. (£15.)—VICE-ADMIRAL SIR FRANCIS B. BRIDGEMAN, Copgrove Hall, *via* Leeds, for **Warlock**, grey gelding, foaled 1904; s. Carnival 172, d. Erin 1386 *by* The Arrow.
 530 II. (£10.)—WILLIAM GALE, Waltham, Melton Mowbray, for **Why Not**, brown gelding, foaled 1903.
 532 III. (£5.)—H. & JACK MAJOR, Sledmere, York, for **Discount**, black mare, foaled 1904.

Driving Classes.¹

Class 70.—*Harness Mares or Geldings, Novices, not exceeding 13 hands 2 inches.*
 [9 entries, 3 absent.]

- 541 I. (£10.)—J. H. TATE, 92 Freeman Street, Great Grimsby, for **Monafly** 17593 brown mare, foaled 1903, bred by W. H. Hansum, Lindum House, Gainsborough; s. Fireboy 7440, d. Mona 9349 *by* Sir Gibbie 1672.
 534 II. (£6.)—THOMAS BODDY, Glenton Hall, West Auckland, for **Grand Duchess Go Bang**, bay mare, foaled 1901, bred by G. E. Franklin, Tbe Field, Derby; s. Sir Horace 5402, d. Lady Mabel 2210 *by* Denmark 177.
 537 III. (£4.)—JOHN FORBES, Bute House, Park Road, Middlesbrough, for **Hello**, chestnut gelding, foaled 1903, bred by John Jones & Son, Dinarth Hall, Colwyn Bay; s. Julius Cæsar 2nd 5666, d. Light 15248 *by* Prospector 6516.
 535 R. N. & H. C.—R. H. CLAYTON, Brandling Hackney Stud, Felling-on-Tyne, for **Mel-Valley Horace Belle**.

Class 71.—*Harness Mares or Geldings, Novices, over 13 hands 2 inches, and not exceeding 14 hands.* [9 entries, none absent.]

- 543 I. (£10.)—THOMAS BODDY, Glenton Hall, West Auckland, for **Lady Cæsar**, bay mare, foaled 1902, bred by John Jones & Son, Dinarth Hall, Colwyn Bay; s. Julius Cæsar 2nd 5666, d. Lexham Fanny 4224 *by* Gem 2082.
 547 II. (£6.)—SIR RILEY LORD, Rock Hall, Alnwick, for **Horace Royalty**, bay gelding, foaled 1903; s. Sir Horace 5402, d. Royalty.
 546 III. (£4.)—WILLIAM HORN, Millfield House, Whickham, S.O., for **Hywel's Lady Owen** 15900, bay mare, foaled 1902, bred by James Howell, Cardiff; s. Birdsman 7705, d. Hywel's Lady Kitty 1552.
 548 R. N. & H. C.—JOSEPH MARK, 17 Grosvenor Gardens, Newtown, Carlisle, for **Maid of Quality**.

Class 72.—*Harness Mares or Geldings, Novices, over 14 hands, and not exceeding 14 hands 2 inches.* [7 entries, 1 absent.]

- 554 I. (£10.)—ALEXANDER GEMMELL, Ayr, for **Seaham Clarence** 16915, roan mare, foaled 1903, bred by the Seaham Harbour Stud, Ltd., Seaham Harbour; s. Royal Danegelt 5785, d. Cleopatra 6487 *by* Roan Derby 3245.
 555 II. (£6.)—JAMES JEBSON, Yapham Grange, Pocklington, for **Yapham Fashion**, brown gelding, foaled 1902, bred by Sir Gilbert Greenall, Bt., Waltho Hall, Warrington; s. Sir Horace 5402.
 553 III. (£4.)—CECIL S. FLETOHER, The Paddocks, Angram, York, for **Angram Loving Cup**, chestnut mare, foaled 1904, bred by Mrs. E. Fletcher, The Grange, Angram; s. Angram Swell 8058, d. Angram Lady Hamlet 14896 *by* Grand Connaught 2nd 6391.
 551 R. N. & H. C.—R. H. CLAYTON, Brandling Hackney Stud, Felling-on-Tyne, for **Brandling Horace**.

Class 73.—*Harness Mares or Geldings, Novices, over 14 hands 2 inches, and not exceeding 15 hands.* [9 entries, 2 absent.]

- 563 I. (£10.)—PHILIP SMITH, Haddon House, Ashton-on-Mersey, for **Queen of Ayr**, bay mare, foaled 1903, bred by James Walker, Limefield, West Calder; s. Mathias 6473, d. Dearest 2nd 10827 *by* Lord Rickell 5288.
 561 II. (£6.)—ALEXANDER GEMMELL, Ayr, for **Frith Manor Mary**, bay mare, foaled 1904, bred by Sir Horace Regnart, Frith Manor, Mill Hill; s. Towthorpe Performer 7298, d. Alethorpe Maud 6352 *by* Ruby 1342.
 562 III. (£4.)—HENRY RODMELL, The Hollies, Holderness Road, Hull, for **Prince Fortunatus** 8976, chestnut gelding, foaled 1903, bred by Tom Mitchell, Eccleshill, Bradford; s. Grand Master 2nd 5230, d. Inholmes Princess 8997 *by* Lord Hamlet 3750.
 564 R. N. & H. C.—W. B. TUBBS, The Paddocks, Mill Hill, for **Lady Gongelt**.

¹ Prizes given by the Newcastle Local Committee.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 74.—*Harness Mares or Geldings, Novices, over 15 hands, and not exceeding 15 hands 2 inches.* [10 entries, 2 absent.]

- 574 I. (£10).—MISS DORA SCHINTZ, Childwall Hall, Liverpool, for *Catalina*, 17320, chestnut mare, foaled 1903, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; s. *Polonius* 4931, d. *Cuckoo Bright* 10803 by *Last Fashion* 4343.
 567 II. (£6).—D. S. CARR, Clyde Vale Stud, Wembley, for *Kipling Dainty* 16725, bay mare, foaled 1902, bred by G. A. Brown, Brantingham, Brough; s. *Cornfactor* 6313, d. *Dainty* 3647 by *Prickwillow* 629.
 569 III. (£4).—J. T. CROALL, Craigcrook Castle, Edinburgh, for *Merry Widow*, bay mare, foaled 1902, bred by Alex. Morton, Darvel, Ayrshire; s. *Rubv* 1342.
 568 R. N. & H. C.—W. H. CLARK, White Hall, Winestead, Hull for *Skeffling Lily*.

Class 75.—*Harness Mares or Geldings, Novices, exceeding 15 hands 2 inches.* [11 entries, 2 absent.]

- 584 I. (£10).—THOMAS SMITH, Shirley Stud, Hall Green, Birmingham, for *Shirley Dispatch* (late Viscount Hopewood), chestnut gelding, foaled 1902, bred by F. J. Batchelor, Hopwood, Alvechurch; s. *Polonius* 4931, d. *May Queen* 9286 by *Danegelt*.
 577 II. (£6).—HOWARD FRANK, Rusthall, Wimbledon Common, for *Shelbourne Salta* 16935, chestnut mare, foaled 1903, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; s. *Polonius* 4931, d. *Saltpetre* 13905 by *Sir Peter Teazle* 3967.
 586 III. (£4).—HENRY WATSON, Newton Kyme, Tadcaster, for *Newton Sportsman*, chestnut gelding, foaled 1904; s. *Garton Duke of Connaught* 3009, d. *Fanny* 2376 by *King Charley* 392.
 582 R. N. & H. C.—MISS ELLA S. ROSS, Beechfield, Sale, for *Grand Vizier*.

Class 76.—*Harness Mares or Geldings, not exceeding 14 hands.* [11 entries, 2 absent.]

- 543 I. (£15).—THOMAS BODDY, for *Lady Caesar*. (See Class 71.)
 541 II. (£10).—J. H. TATE, for *Monafy*. (See Class 70.)
 536 III. (£6).—CECIL S. FLETCHER, The Paddocks, Angram, York, for *Lord Horace*, bay gelding, foaled 1900, bred by J. J. Candlish, Shottow Hall, Castle Eden; s. *Little Wonder* 2nd 1610, d. *Elegant* 875 by *Model* 1054.
 537 IV. (£4).—JOHN FORBES, for *Hello*. (See Class 70.)
 548 R. N. & H. C.—W. HORN, for *Hywel's Lady Owen*. (See Class 71.)

Class 77.—*Harness Mares or Geldings, over 14 hands, and not exceeding 15 hands.* [16 entries, 3 absent.]

- 589 I. (£15, & R. N. for *Champion*.²)—J. H. HODKINSON, Lower Wood, Darwen, for *Fylde Sabrinetta* 14341, bay mare, foaled 1900, bred by T. B. Sykes, Breck House, Poulton-le-Fylde; s. *Garton Duke of Connaught* 3009, d. *Lady Gladys* 2911 by *Lord Derby* 2nd 417.
 592 II. (£10).—JOHN KERR, Loudwater, Rickmansworth, for *Loudwater Flourish*, bay gelding, foaled 1902, bred by Sir Gilbert Greenall, Bt., Walton Hall, Warrington; s. *Golden Rule* 6380, d. *Terrington Floweret* 13970 by *Caxton* 2398.
 588 III. (£6).—MRS. HARTLEY BATT, 20 Westbourne Street, Hyde Park, W., for *Hopwood Spark*, bay gelding, foaled 1901, bred by F. J. Batchelor, Hopwood, Alvechurch; s. *Sir Horace* 5402, d. *Queenie* 6069 by *Model* 2nd 460.
 563 IV. (£4).—PHILIP SMITH, for *Queen of Ayr*. (See Class 73.)
 590 R. N. & H. C.—PAUL HOFFMANN, 4 Cardigan Mansions, Richmond, for *The Gem*.

Class 78.—*Harness Mares or Geldings, over 15 hands.* [16 entries, 2 absent.]

- 602 I. (£15, & *Champion*.¹)—MISS DORA SCHINTZ, Childwall Hall, Liverpool, for *Morocco*, chestnut gelding, foaled 1900, bred by G. N. Stephenson, Manor House, Goodmanham; s. *Revival* 7263, d. *May Flower* 765 by *Lord Derby* 2nd 417.
 584 II. (£10).—THOMAS SMITH, for *Shirley Dispatch*. (See Class 75.)
 574 III. (£6).—MISS DORA SCHINTZ, for *Catalina*. (See Class 74.)
 597 IV. (£4).—PAUL HOFFMANN, 4 Cardigan Mansions, Richmond Hill, for *Riot*, chestnut gelding, foaled 1902, bred by W. Burdett-Coutts, M.P., Brookfield Stud, Highgate; s. *Polonius* 4931, d. *Emeute* by *Candidate* 920.
 601 R. N. & H. C.—MISS ELLA S. ROSS, Beechfield, Sale, for *Grand Vulcan*.

Pace and Action.

Class 79.—*Single Harness Horses.* [6 entries, none absent.]

- 604 I. (£15).—WALTER WINANS, Surrenden Park, Pluckley, Kent, for *Nancy Clancy*, brown mare.
 603 II. (£10).—WALTER WINANS, for *Kent*, bay gelding.
 573 III. (£6).—J. RAYNOR, Forest House, Mansfield, for *Gay Boy*, piebald gelding, foaled 1900, bred by J. W. Coleman, Whetton; s. *Bembow*, d. *Anconius*.
 546 IV. (£4).—WILLIAM HORN, for *Hywel's Lady Owen*. (See Class 71.)

¹ Gold Medal, value £5, given by the Hackney Horse Society, for the best Mare or Gelding in Classes 70-78, the produce of a registered Hackney Stallion.

Award of Live Stock Prizes at Newcastle, 1908. lxxi

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 80.—*Pairs of Harness Mares or Geldings, not exceeding 15 hands 2 inches, driven in Double Harness.* [9 entries, none absent.]

- 610 I. (£15.)—JOHN KERR, Loudwater, Rickmansworth, for Loudwater Gongelt, bay gelding, foaled 1902, bred by W. B. Tubbs, The Paddocks, Mill Hill; s. Royal Danegelt 5785, d. Lady Gonville 5564 by Wymondham Gentleman 2781; and Loudwater Grangelt, bay gelding, foaled 1903, bred by W. B. Tubbs, The Paddocks, Mill Hill; s. Royal Danegelt 5785, d. Lady Granville 5107 by Dr. Syntax 877.
- 606 II. (£10.)—MRS. HARTLEY BATT, 20 Westbourne Street, Hyde Park, W., for Hopwood Horace, bay gelding, foaled 1900, bred by F. J. Batchelor, Hopwood, Alvechurch; s. Sir Horace 5402, d. Queenie 6069 by Model 2nd 460; and Hopwood Spark, (See Class 77.)
- 609 III. (£5.)—PAUL HOFFMANN, 4 Cardigan Mansions, Richmond Hill, for The Gem 15210, bay mare, foaled 1901, bred by R. Forrest, Knockinlaw, Kilmarnock; s. Mathias 6473, d. Lady Mary 207 by Lord Derby 2nd 417; and The Gentleman, bay gelding, foaled 1901, bred by Sir Gilbert Greenall, Bt., Walton Hall, Warrington; s. Sir Horace 5402.
- 611 R. N. & H. C.—JOHN MAKEAGUE, Golborne Park, Newton-le-Willows, for Luminator and Reflector.

Class 81.—*Pairs of Harness Mares or Geldings, exceeding 15 hands 2 inches, driven in Double Harness.* [8 entries, none absent.]

- 622 I. (£15.)—MISS DORA SCHINTZ, Childwall Hall, Liverpool, for Martello, chestnut gelding, foaled 1901, bred by R. M. Birley, Ribbleton, Preston; s. Royal Derby 6538, d. Lady Fishwick 13652 by Model 1054; and Morocco. (See Class 78.)
- 621 II. (£10.)—MISS ELLA S. ROSS, Beechfield, Sale, for Grand Vizier, black gelding, foaled 1902, bred by Henry Whittick, Newland, Hull; s. Gentleman John 3624, d. Fairy Queen 6643 by Curfew 1755; and Rowton Vitalba, black gelding, foaled 1898, bred by F. W. Macfie, Rowton Hall, Chester; s. Rowton Blackthorn 5778, d. Rowton Violet 7366 by Contentment 1268.
- 619 III. (£5.)—JOHN MAKEAGUE, Golborne Park, Newton-le-Willows, for Queen's Favour, bay mare, foaled 1904; s. Candidate 920, d. Dairymaid 6531 by Dart 1271; and Queen's Maid, bay mare, foaled 1901; s. Gentleman John 3624, d. Dairymaid 6531 by Dart 1271.
- 616 R. N. & H. C.—T. HOWE & CO., 11 Percy Street, Newcastle-on-Tyne, for Queen of the Johns and Walden Lady John.

Class 82.—*Pairs of Harness Mares or Geldings, not exceeding 15 hands, driven Tandem.* [6 entries, 2 absent.]

- 606 I. (£15.)—MRS. HARTLEY BATT, for Hopwood Horace and Hopwood Spark. (See Class 80.)
- 609 II. (£10.)—PAUL HOFFMANN, for The Gem and The Gentleman. (See Class 80.)
- 613 III. (£5.)—PHILIP SMITH, for Queen of Ayr (see Class 73); and Prince of Ayr, bay gelding, foaled 1903, bred by R. C. Marshall, Burntshields, Kilbarchan; s. Commence 7406, d. Rosetta 8426 by Lord Derby 2nd 417.

Class 83.—*Pairs of Harness Mares or Geldings, exceeding 15 hands, driven Tandem.* [6 entries, 2 absent.]

- 615 I. (£15.)—PAUL HOFFMANN, for Riot (see Class 78); and Green Girl 15835, chestnut mare, foaled 1902, bred by W. Burdett-Countts, M.P., Brookfield Stud, Highgate; s. Polonius 4931, d. Dandy Girl 3661 by Danegelt 174.
- 624 II. (£10.)—JOHN KERR, Loudwater, Rickmansworth, for Loudwater Robin Hood, bay gelding, foaled 1902, bred by the late W. Flanders, Witcham, Ely; s. Forest King 5621, d. Jessamine 10058 by Marmion 2nd 3793; and Loudwater Gongelt (see Class 80).
- 611 III. (£5.)—JOHN MAKEAGUE, Golborne Park, Newton-le-Willows, for Luminator, bay gelding, foaled 1901; s. Rosador 4964, d. Miss Emma 10316 by Naffertonian 1527; and Reflector, bay gelding, foaled 1902; s. Rosador 4964, d. Miss Emma 10316 by Naffertonian 1527.
- 625 R. N. & H. C.—MISS ELLA S. ROSS, for Grand Vizier and Grand Vulcan.

Class 84.—*Four-in-Hand Teams, Mares or Geldings, to be shown before a Coach.* [4 entries, 2 absent.]

- 629 I. (£25, & Champion.¹)—MISS ELLA S. ROSS, Beechfield, Sale, for Grand Vizier (see Class 81); Rowton Vitalba (see Class 81); Grand Vulcan, black gelding, foaled 1902, bred by R. C. Marshall, Burntshields, Kilbarchan; s. Mathias 6473, d. Rosetta 8426 by Lord Derby 2nd 417; and Grand Vandal, black gelding, foaled 1902, bred by the late Wm. Scott, Thornhome, Carlisle; s. Mathias 6473, d. Lady Maythorn 9143 by Goldfinder 6th 1791.

¹ Challenge Cup, value £50, given by gentlemen interested in Coaching for the best Team, the Cup to become the absolute property of an Exhibitor winning it twice in succession or three times in all.

lxxii *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 628 II. (£15.)—JOHN KERR, Loudwater, Rickmansworth, for **Loudwater Gongelt** (see Class 80); **Loudwater Grangelt** (see Class 80); **Loudwater Friar Tuck**, bay gelding, foaled 1903, bred by the late T. Wing, The Willows, March; s. Master of Hilston 7188; and **Loudwater Robin Hood**, bay gelding, foaled 1903, bred by the late W. Flanders, Witcham, Ely; s. Forest King 5621, d. Jessamine 10058 by Marmion 2nd 3793.

Pit Ponies.

Class 85.—*Two Pit Ponies, not exceeding 11 hands.* [8 entries none absent.]

- 637 I. (£10.)—THE SEATON DELAVAL COAL CO., LTD., Seaton Delaval Colliery, Northumberland, for **Spider**, bay stallion, foaled 1902; and **Lap**, bay stallion, foaled 1901.
635 II. (£5.)—THE NORTH WALBOTTLE COAL CO., LTD., 10, Queen Street, Newcastle-on-Tyne, for **Turk**, bay stallion, foaled 1904; and **Dunny**, brown stallion, foaled 1904.
636 III. (£3.)—U. A. RITSON & SONS, LTD., Preston Colliery, North Shields, for **Norman**, bay stallion, foaled 1902; and **Buller**, bay stallion, foaled 1903.
632 R. N. & H. C.—THE CHARLAW & SACRISTAN COLLIERIES CO., LTD., Kimblesworth Colliery, Chester-le-Street, for **Neddy** and **Dandy**.

Class 86.—*Two Pit Ponies, exceeding 11 hands, and not exceeding 12 hands 2 inches.* [7 entries, none absent.]

- 644 I. (£10.)—THE SEATON BURN COAL CO., LTD., Seaton Burn Colliery, Dudley, R.S.O., for **Roney**, roan stallion, foaled 1901; and **Sweep**, grey stallion, foaled 1901.
640 II. (£5.)—THE COWPEN COAL CO., LTD., Cowpen Colliery Office, Blyth, for **Picture**, brown stallion; and **Prince**, chestnut stallion.
639 III. (£3.)—THE BROOMHILL COLLIERIES, LTD., Newburgh Colliery, Broomhill, Acklington, for **Buller**, black gelding, foaled 1899; and **Burt**, brown gelding, foaled 1901.
643 R. N. & H. C.—THE LAMPTON COLLIERIES, LTD., Cathedral Buildings, Newcastle-on-Tyne, for **Rector** and **Rags**.

Draught Horses.

Class 87.—*Mares or Geldings, shown in Cart or Lurry.*¹

[8 entries, none absent.]

- 646 I. (£15.)—ISAAC CARRUTHERS, Black Boy Yard, Groat Market, Newcastle-on-Tyne, for bay gelding, foaled 1903.
650 II. (£10.)—PETER DAVIES, Midlands Farm, Warburton, for **Midlands Extraordinary** (Shire), bay gelding, foaled 1902.
651 III. (£6.)—LORD MIDDLETON, Birdsall House, York, for bay gelding (Shire), foaled 1904, bred by R. Smith, Upper Helmsley, York; s. Saxon Harold.
647 IV. (£4.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Boxer** (Suffolk), chestnut gelding, foaled 1901, bred by Mr. Allen, Harkstead, Ipswich.
653 R. N. & H. C.—T. STEVENSON, Windlestone Grange, Rusyford, Ferry Hill, for **Captain**.

Class 88.—*Teams of Two Draught Horses, shown in Lurry or Wagon.*¹

[7 entries, none absent.]

- 658 I. (£15.)—PETER DAVIES, for **Midlands Extraordinary** (see Class 87); and **Midlands Prince** (Shire), bay gelding, foaled 1903.
659 II. (£10.)—LORD MIDDLETON, for bay gelding (see Class 87); and bay gelding (Shire), foaled 1905, bred by H. Nicholson, Kennvthorpe, Malton; s. Menestrel.
655 III. (£6.)—KENNETH M. CLARK, Sudbourne Hall, Orford, for **Sudbourne Smiler** (Suffolk), chestnut gelding, foaled 1902, bred by the Exors. of the late H. E. Moore, Bricett; and **Sudbourne Procter** (Suffolk), chestnut gelding, foaled 1902, bred by Mr. Goldsmith, Burgh, Woodbridge.
660 IV. (£4.)—SIR CUTHBERT QUILTER, BT., Bawdsey Manor, Woodbridge, for **Smiler** (Suffolk), chestnut gelding, foaled 1900, bred by Roland Partridge, Hadleigh; and **Bentley Duchess** (Suffolk), chestnut mare, foaled 1897, bred by Mr. Starkie, Laxfield; s. Border Minstrel 2287, d. Laxfield Diamond 1423.
656 R. N. & H. C.—THE CO-OPERATIVE WHOLESALE SOCIETY, West Blandford Street, Newcastle-on-Tyne, for **Dick** and **Topper**.

Class 89.—*Teams of Four Draught Horses, shown in Lurry or Wagon.*¹

[4 entries.]

- 662 I. (£25.)—PETER DAVIES, for **Midlands Extraordinary** (see Class 87); **Midlands Prince** (see Class 88); **Midlands Lion** (Shire), gelding; and **Midlands Duke** (Shire) gelding.
663 II. (£15.)—LORD MIDDLETON, Birdsall House, York, for bay geldings (Shire).

¹ Prizes given by the Newcastle Local Committee.

Award of Live Stock Prizes at Newcastle, 1908. lxxiii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 661 III. (£10.)—KENNETH M. CLARK, for **Sudbourne Boxer** (see Class 87); **Sudbourne Smiler** (see Class 88); **Sudbourne Procter** (see Class 88); and **Sudbourne Club** (Suffolk), chestnut gelding, foaled 1901, bred by Mr. Porter, Burgh, Woodbridge.
 664 IV. (£6.)—SIR CUTHBERT QUILTER, BT., for **Smiler** (see Class 88); **Bentley Duchess** (see Class 88); **Nelson** (Suffolk), chestnut gelding; and **China Aster** (Suffolk), chestnut mare.

Class 90.—*Teams of Four Suffolk Horses, to be shown in Lurry or Wagon.*¹

[2 entries.]

- 661 I. (£20.)—KENNETH M. CLARK, for **Sudbourne Smiler**, **Sudbourne Boxer**, **Sudbourne Procter**, and **Sudbourne Club**.
 664 II. (£10.)—SIR CUTHBERT QUILTER, BT., for **Smiler**, **Bentley Duchess**, **Nelson**, and **China Aster**.

JUMPING COMPETITIONS.²

Class A.—*Mares or Geldings, not exceeding 15 hands 2 inches.* [11 entries.]

- 1 I. (£20.)—JAMES GLENCROSS, North End Stables, Frome, for **Nomination**, bay mare.
 8 II. (£15.)—F. VOLLER GRANGE, Oak House, Farndon, for **Rufus**, chestnut gelding.
 7 III. (£10.)—THOMAS GLENCROSS, Garth, Frome, for **Blink Bonny**.
 11 R. N. & H. C.—WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, for **Snowdrop**.

Class B.—*Mares or Geldings, exceeding 15 hands 2 inches.* [12 entries.]

- 4 I. (£20.)—THOMAS SWALES, High Street, Yarm-on-Tees, for **Ladysmith**, brown mare.
 3 II. (£15.)—F. VOLLER GRANGE, Oak House, Farndon, for **Hardcash**, black gelding.
 11 III. (£10.)—F. W. FOSTER, Culland, Brailsford, Derby, for **Paddy**, bay gelding.
 7 R. N. & H. C.—G. LEDSON, Manor House, Bromboro', for **Pioneer**.

Class C.—*Mares or Geldings, any height, Winners in Classes A and B excepted.*

[18 entries.]

- 6 } Equal Prizes { WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, for **Snow-**
 14 } of £17 10s. { drop, grey mare.
 { T. & W. SINGER, High House, Corsley, Warminster, for **Miss Dainty**,
 { chestnut mare.
 3 (£10.)—T. & H. WARD, Pinchinthorpe, Great Ayton, for **Fisherman**.

Class D.—*Champion Class. Mares or Geldings, any height.* [15 entries.]

- 12 I. (£20.)—JAMES GLENCROSS, North End Stables, Frome, for **Nomination**, bay mare.
 10 II. (£15.)—F. W. FOSTER, Culland, Brailsford, Derby, for **Paddy**, bay gelding.
 9 III. (£10.)—ERNEST BRADLEY, Newton, Great Ayton, for **Piper**, bay gelding.
 6 IV. (£8.)—WELLBURN BROS., Huddleston Hall, South Milford, for **Gay Lad**, chestnut gelding.
 4 V. (£6.)—T. & H. WARD, Pinchinthorpe, Great Ayton, for **Fisherman**, bay gelding.
 5 VI. (£4.)—THOMAS SWALES, High Street, Yarm-on-Tees, for **Ladysmith**, brown mare.

High Jumping.

Class E.—*Horses, any height.* [17 entries.]

- 14 } Equal Prizes { WELLBURN BROS., Huddleston Hall, South Milford, for **Ping Pong**,
 16 } of £22 10s. { bay mare.
 { THOMAS GLENCROSS, Garth House, Frome, for **Blink Bonny**, bay
 { mare.
 10 (£10.)—T. & H. WARD, Pinchinthorpe, Great Ayton, for **Fisherman**.
 4 } B. M. SIMS, Borrowfield Lodge, Borrowwash, Derby, for **Grey Light**,
 { grey mare.
 8 } Equal Prizes { ERNEST BRADLEY, Newton, Great Ayton, for **Piper**, bay gelding.
 15 } of £5. { WHITTINGHAM BROS., Wellington Street, Burton-on-Trent, for **Snow-**
 { drop, grey mare.

CATTLE. Shorthorns.

Class 91.—*Shorthorn Bulls, calved in 1903, 1904, or 1905.*

[35 entries, 6 absent.]

- 675 I. (£10, & Champion.*)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield, for **Chiddingstone Malcolm** 98377, roan, born May 8, 1905, bred by F. A. & E. H. M. Denny, Chiddingstone, Edenbridge; s. Ascott Constellation 85184, d. Malcolm's Princess by Gay Malcolm 76741.

¹ Prizes given by the Suffolk Horse Society.

² Prizes given by the Newcastle Local Committee.

³ Champion Prize of £30 given by the Shorthorn Society for the best Bull in Classes 91-95.

lxxiv *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 673 **II.** (£6.)—GEORGE CAMPBELL, Harthill, Whitehouse, for **Tarrel Uxor** 93622, roan, born Jan. 27, 1905, bred by John Ross, Meikle Tarrel, Fearn; s. Ajax 80320, d. Lady Una 4th by Regulator 79737.
- 665 **III.** (£4.)—H. M. THE KING, Royal Farms, Windsor, for **Royal Windsor** 93289, roan, born March 27, 1905; s. Luxury 74958, d. Remembrance by Count Lavender 60545.
- 684 **IV.** (£3, & R. N. for Special.¹)—GEORGE HARRISON, Gainford Hall, Darlington, for **Elvetham Sweetmeat** 91624, roan, born March 7, 1905, bred by Lord Calthorpe, Elvetham Park, Winchfield; s. Bapton Champion 78285, d. Sweetheart by Royal Duke 75509.
- 689 **V.** (£3.)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Alnwick Favourite** 90653, roan, born Aug. 16, 1903; s. Bapton Favourite 76080, d. Baroness Rothschild by Baron Abbotsford 76087.
- 672 **R. N. & H. C.**—GEORGE CAMPBELL, Harthill, Whitehouse, for **Moonstone**.

Class 92.—*Shorthorn Bulls, calved on or between January 1, 1906, and June 30, 1906.* [48 entries, 18 absent.]

- 726 **I.** (£10, R. N. for Champion,² Cup,³ Special,¹ & Special.⁴)—GEORGE HARRISON, Gainford Hall, Darlington, for **Pride of Tees** 96474, roan, born Feb. 24, bred by C. H. Jolliffe, Newbus Grange, Darlington; s. Primrose Pride 79605, d. Lady Augusta 2nd by Robert Bruce 7661.
- 700 **II.** (£6.)—H. M. THE KING, Royal Farms, Windsor, for **Evander** 95106, roan, born Jan. 4; s. Royal Chieftain 84587, d. Eliza 21st by Prince of Sanguhar 71251.
- 740 **III.** (£4.)—R. R. ROTHWELL, Moss Farm, Much Hoole, Preston, for **Lord Brilliant** 95801, roan, born Jan. 21; s. Lord Blanche 13th 86418, d. Wallflower's Brilliant 16th by Cader Idris 5th 76279.
- 730 **IV.** (£3.)—C. H. JOLLIFFE, Newbus Grange, Darlington, for **King's Champion** 95631, roan, born Jan. 4, bred by W. Duthie, Collynie, Tarves; s. Bapton Champion 78285, d. Missie 150th by Dauntless 54155.
- 746 **V.** (£3.)—J. DEANE WILLIS, Bapton Manor, Codford, Wilts, for **Bapton Viscount** 94146, roan, born April 13; s. Chewton Brave Archer 78578, d. Victoria Rosea by Bapton Victory 69910.
- 22 **R. N. & H. C.**—JOHN HANDLEY, Green Head, Milnthorpe, for **Lord Palatine**.

Class 93.—*Shorthorn Bulls, calved on or between July 1, 1906, and December 31, 1906.* [18 entries, 3 absent.]

- 758 **I.** (£10.⁵)—JOHN HANDLEY, Green Head, Milnthorpe, for **Rosedale Favourite** 100365, roan, born Sept. 24; s. Royal Favourite 89927, d. Rosedale Flower 3rd by Golden Prince 74644.
- 748 **II.** (£6.⁵)—A. F. BASSET, Tehidy, Camborne, for **Tehidy Robin Hood** 97420, roan, born Dec. 14; s. Royal Estate 89925, d. Tehidy Royal Countess 3rd by Shamrock 84742.
- 761 **III.** (£4.⁵)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Lucky Star** 95932, roan, born Sept. 28; s. Star of Freedom 90230, d. Daisy's Success by The Leader 66428.
- 764 **IV.** (£3.)—W. M. SCOTT, Nether Swell Manor, Stow-on-the-Wold, for **Waverley** 97640, roan, born Nov. 27; s. Maybrick 96031, d. Fanfare 7th by Royal Velvet 84655.
- 757 **R. N. & H. C.**—JOHN HANDLEY, for **Majestic**.

Class 94.—*Shorthorn Bulls, calved on or between January 1, 1907, and June 30, 1907.* [69 entries, 9 absent.]

- 793 **I.** (£10, Special,⁶ & R. N. for Special.⁴)—GEORGE HARRISON, Gainford Hall, Darlington, for **Collynie Champion** 98417, roan, born Jan. 12, bred by W. Duthie, Collynie, Tarves; s. Bapton Champion 78285, d. Missie 150th by Dauntless 54155.
- 783 **II.** (£6.)—A. T. GORDON, Combscauseway, Inch, for **Count Fascinator** 98479, roan, born Jan. 25; s. Fascinator 88569, d. Countess 20th by Frankenstein 78914.
- 813 **III.** (£4.)—F. MILLER, La Belen, Clifton Road, Birkenhead, for **Royal Duke** 100419, roan, born May 1, bred by John Gill, Thorn Farm, Stainton, Penrith; s. May Duke 92847, d. Lady Annie 3rd by Balmoral 80378.
- 808 **IV.** (£3.)—J. H. MADEN, Rockcliffe House, Bacup, for **Duke of Hoole** 98666, dark roan, born Jan. 20, bred by R. and T. Harrison, Manor House, Much Hoole, Preston; s. Strowan Marquis 13th 90268, d. Red Blossom 2nd by Chancellor 80657.

¹ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Bull in Classes 91-93.

² Champion Prize of £30 given by the Shorthorn Society for the best Bull in Classes 91-95.

³ Silver Cup, value £25, specially given through the Newcastle Local Committee, for the best Animal in Classes 91-102 bred in the County of Durham.

⁴ Special Prize of £20 given by the Newcastle Farmers' Club for the best Animal in Classes 91-102, exhibited by a tenant farmer in the Counties of Northumberland and Durham.

⁵ Prizes given by the Shorthorn Society.

⁶ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Bull in Classes 94 and 95.

Award of Live Stock Prizes at Newcastle, 1908. lxxx

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

810 V. (£3.)—EARL MANVERS, Holme Pierrepont, Nottingham, for **White Emperor** 101104, white, born Feb. 8; s. Ruddington Prince Christian 89997, d. Armathwaite Butterfly 31st by Duke of Armathwaite 70294.

776 R. N. & H. C.—S. E. DEAN & SONS, Dowsby Hall, Bourne, for **Sanquhar Pearl**.

Class 95.—Shorthorn Bulls, calved on or between July 1, 1907, and December 31, 1907. [31 entries, 6 absent.]

843 I. (£10.¹)—A. T. GORDON, Combscausway, Insch, for **Bandmaster** 97929, roan, born Dec. 29; s. Newton Crystal 92658, d. Beatrice 22nd by Lanecot 79181.

852 II. (£6.¹)—H. S. LEON, Bletchley Park, Bucks, for **Bletchley Gold** 98111, red and little white, born Sept. 20; s. Pride of Avon 86878, d. Collynie Golden Drop 4th by Bapton Champion 78285.

853 III. (£4.¹)—H. S. LEON, for **Bletchley Snow**, white, born Nov. 6; s. Pride of Avon 86878, d. Mistletoe 34th by Bapton Champion 78285.

865 IV. (£3.)—J. DEANE WILLIS, Bapton Manor, Codford, Wilts, for **Bapton Socrates**, roan, born Sept. 21; s. Chewton Brave Archer 78578, d. Sorceress (vol. 47, p. 849) by Bapton Javelin 68176.

857 V. (£3.)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Gainford Sweetmeat** 98887, roan, born Aug. 29, bred by George Harrison, Gainford Hall, Darlington; s. Elvetham Sweetmeat 91624, d. Stanley Betty by Master Sprightly 79392.

859 R. N. & H. C.—THE EARL OF POWIS, for **Powysland Senator**.

Class 96.—Shorthorn Cows (in-milk), calved in or before 1904.

[14 entries, 3 absent.]

871 I. (£10, & R.N. for Champion.²)—J. H. MADEN, Rockcliffe House, Bacup, for **Lady Graceful** (vol. 53, p. 901), roan, born Sept. 25, 1904, calved March 15, 1908, bred by W. Kendall, Natland Park, Kendal; s. Farleton Chief 83463, d. White Graceful by Stanley 77954.

870 II. (£6, & Special.³)—GEORGE HARRISON, Gainford Hall, Darlington, for **Dalmeny Rosemary** (vol. 53, p. 817), white, born March 20, 1903, calved Jan. 11, 1908, bred by the Earl of Rosebery, K.G., Dalmeny Park, Edinburgh; s. Rosierucian of Dalmeny 82117, d. Lobelia by Arthur 73963.

867 III. (£4, & R. N. for Special.³)—WILLIAM BELL, Ratcheugh, Alnwick, for **Ratcheugh Beauty** (vol. 51, p. 437), roan, born Dec. 29, 1904, calved March 11, 1908; s. Baron Skeabost 87915, d. Ratcheugh Witch by Baron Abbotsford 76087.

868 IV. (£3.)—WILLIAM BELL, for **Ratcheugh Witch** (vol. 53, p. 563), roan, born Sept. 20, 1902, calved March 9, 1908; s. Baron Abbotsford 76087, d. Ratcheugh Maid by Major 59419.

872 R. N. & H. C.—LORD MIDDLETON, Birdsall House, York, for **Birdsall Duchess** 5th.

Class 97.—Shorthorn Heifers (in-milk), calved in 1905. [12 entries, 2 absent.]

882 I. (£10.¹)—S. E. DEAN & SONS, Dowsby Hall, Bourne, for **Queen of Spey** 16th (vol. 53, p. 682), roan, born Oct. 3, calved Jan. 16, 1908, bred by the Duke of Richmond and Gordon, K.G., Gordon Castle, Fochabers; s. Merry Nonpareil 84126, d. Queen of Spey 12th by Prince of Fortune 77494.

889 II. (£6.¹)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Belle of Alnwick** (vol. 52, p. 987), roan, born July 7, calved Dec. 30, 1907; s. Bapton Favourite 76080, d. Leading Belle by The Leader 66428.

890 III. (£4.¹)—THE EARL OF POWIS, Powis Castle, Welshpool, for **Powysland Snowdrop**, white, born Jan. 5, calved April 22, 1908, bred by H. K. Colville, Bellaport Hall, Market Drayton; s. Strowan Butterfly 19th 87517, d. Lady Gladys Waterloo (vol. 49, p. 564) by Pitlivi Governor 79562.

886 IV. (£3.)—GEORGE HARRISON, Gainford Hall, Darlington, for **Crown Gem** (vol. 53, p. 718), roan, born Dec. 11, calved April 1, 1908, bred by James Durns, Jackson, Rothienorman; s. Royal Mint 87199, d. Crown Jewel by Cornelius 66864.

888 R. N. & H. C.—SIR ALEXANDER HENDERSON, Bt., Buscot Park, Faringdon, for **Buscot Truth**.

Class 98.—Shorthorn Heifers, calved in 1906. [51 entries, 5 absent.]

892 I. (£10, & Champion.²)—H. M. THE KING, Royal Farms, Windsor, for **Mariorie** (vol. 53, p. 489), roan, born Jan. 23; s. Royal Chieftain 84587, d. Miriam by Merry Harbinger 73065.

925 II. (£6.)—H. S. LEON, Bletchley Park, Bucks, for **Snowdrop** (vol. 53, p. 926), white, born Aug. 19; s. Silver Mint 79968, d. Nonpareil Mistletoe by Nonpareil Courtier 79448.

893 III. (£4.)—H. M. THE KING, Sandringham, for **Dame Oxford** (vol. 53, p. 492), white, born July 20; s. Royal Carlisle 84584, d. Oxford Match by Holker Oxford Duke 5th.

¹ Prizes given by the Shorthorn Society.

² Champion Prize of £30 given by the Shorthorn Society for the best Cow or Heifer in Classes 96-102.

³ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Cow in Class 96.

lxxvi *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 903 IV. (£3.)—LORD CALTHORPE, Elvetham Park, Winchfield, for *Elvetham Sweetheart* (vol. 53, p. 617), roan, born Feb. 21; s. Sittyton Chief 84821, d. Sweetheart by Royal Duke 75509.
 912 V. (£3.)—A. T. GORDON, Combscauseway, Insch, for *Golden Chloe*, red roan, born Jan. 2, bred by H. M. S. Mackay, Burgie Lodge, Forres; s. Golden Fame 70786, d. Chloe 4th (vol. 50, p. 694) by Scotch Thistle 73584.
 919 R. N. & H. C., & Special¹—GEORGE HARRISON, for *Elvetham Ruth*.

Class 99.—*Shorthorn Heifers, calved in 1907.* [58 entries, 11 absent.]

- 956 I. (£10.)—W. T. GARNE & SON, Aldsworth, Northleach, for *Village Belle*, roan, born Feb. 27; d. Village Beau 87631, d. Jewel Case by Provider 77542.
 972 II. (£6.)—W. J. HOSKEN, Loggans Mill, Hayle, for *Tehidy Dickson* 4th, roan, born June 3, bred by A. F. Basset, Tehidy, Camborne; s. Shamrock 84742, d. Royal Dickson (vol. 53, p. 549) by Royal Sovereign 77756.
 974 III. (£4.)—J. H. MADEN, Rockcliffe House, Bacup, for *Hoole Graceful*, light roan, born April 1, bred by R. R. Rothwell, Moss Farm, Much Hoole, Preston; s. Man-o'-War 92436, d. Lady Graceful (vol. 53, p. 901) by Farleton Chief 83463.
 965 IV. (£3.)—GEORGE HARRISON, Gainford Hall, Darlington, for *Cinderella* 14th, white, born April 1, bred by John Young, Tilbouries, Maryculter, Aberdeen; s. Scottish Star 93375, d. Cinderella 11th by Sittyton Choice 84822.
 963 V. (£3.)—JOSEPH HARRIS, Brackenburgh Tower, Carlisle, for *Lady Worcester*, roan, born March 24; s. Duke of Ruddington 6th 91562, d. Lady Pensive (vol. 53, p. 816) by Prince Pensive 77506.
 948 R. N. & H. C.—A. F. BASSET, Tehidy, Camborne, for *Tehidy Royal Gwynne* 6th.

Class 100.—*Shorthorn Dairy Cows (in-milk), calved in or before 1903, entered or eligible for entry in Coates's Herd Book.*² [16 entries, 4 absent.]

- 1009 I. (£10, & Champion.³)—LORD ROTHSCCHILD, Tring Park, Herts, for *Gift* 2nd (vol. 53, p. 900), roan, born Aug. 4, 1901, calved May 23, 1908, bred by W. Kendall, Kilu Farm, Farleton, Carnforth; s. Stanley 77954, d. Gift by Bridegroom 68269.
 1001 II. (£6, & R. N. for Champion.³)—C. R. W. ADEANE, Babraham Hall, Cambridge, for *Babraham Darling Lady* (vol. 53, p. 499), red, born Feb. 24, 1902, calved May 14, 1908; s. Red Lord 15th 77593, d. Darling 6th by Blair Athol 60367.
 1007 III. (£4.)—W. M. CAZALET, Fairlawn, Tonbridge, for *Janette* 45th (vol. 53, p. 524), roan, born Feb. 17, 1900, calved April 8, 1908, bred by W. Arkell, Kempford, Fairford; s. Airy Knight 2nd 69854, d. Janette 31st by Reuben 64657.
 1010 R. N. & H. C.—LORD ROTHSCCHILD, for *Moppy Gem* 5th.

Class 101.—*Shorthorn Dairy Cows (in-milk), calved in 1904, entered or eligible for entry in Coates's Herd Book.*² [6 entries, 2 absent.]

- 1019 I. (£10.)—LORD ROTHSCCHILD, Tring Park, Herts, for *Primrose* 4th, red and little white, born May 31, calved April 6, 1908, bred by T. Hunter, Stone Row Head Farm, Lancaster; s. Silver King 77867, d. Primrose (vol. 53, p. 878) by Duke Fidget 78728.
 1022 II. (£6.)—THE MARQUIS OF WINCHESTER, Amport St. Mary's, Andover, for *Amport Ursulina* (vol. 52, p. 1210), red and little white, born Nov. 5, calved March 7, 1908; s. Stratton Monk 84880, d. Ursulina 17th by Reuben 64657.
 1017 III. (£4.)—C. R. W. ADEANE, Babraham Hall, Cambridge, for *Babraham Daisy* (vol. 51, p. 382), red and white, born Feb. 20, calved May 10, 1908; s. Red Lord 15th 77593, d. Dainty Darling by Edwin 70370.

Class 102.—*Shorthorn Dairy Heifers (in-milk), calved in or after 1905, entered or eligible for entry in Coates's Herd Book.*⁴ [9 entries, 4 absent.]

- 1024 I. (£10.)—C. R. W. ADEANE, Babraham Hall, Cambridge, for *Babraham Lammermore* (vol. 52, p. 449), red and white, born Jan. 23, 1905, calved May 23, 1908; s. Fairy Prince 81020, d. Lady Lucy by Red Lord 15th 77593.
 1029 II. (£6.)—J. M. STRICKLAND, Warren House, Brandsby, Easingwold, for *Brandsby's Princess* (vol. 52, p. 1134), red, born Feb. 18, 1905, calved March 21, 1908; s. Bapton Judge 82768, d. Princess May by Coming Star 57082.
 1023 III. (£4.)—C. R. W. ADEANE, for *Babraham Eva Bates* (vol. 52, p. 449), red and white, born Sept. 9, 1905, calved May 11, 1908; s. Prince Pericles 24th 86953, d. Lady Evelyn Bates by Red Lord 15th 77593.
 1030 R. N. & H. C.—THE MARQUIS OF WINCHESTER, for *Lady Morris*.
 1027 Special.⁵—MARSHALL & MCBRYDE, Broomhaugh, Riding Mill, for *Miss Molly*.

¹ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Heifer in Classes 97-99.

² Prizes given by the Shorthorn Society.

³ Champion Prize of £10 given by the Dairy Shorthorn (Coates's Herd Book) Association for the best Animal in Classes 100-102.

⁴ Prizes given by the Dairy Shorthorn (Coates's Herd Book) Association.

⁵ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Cow or Heifer in Classes 100-102.

Award of Live Stock Prizes at Newcastle, 1908. lxxvii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 103.—*Milk Yield Prizes, open to Shorthorn Cows and Heifers entered in Classes 96, 97, 100, 101, and 102 only.* [8 entries, 1 absent.]

1008 I. (£10.)—LORD ROTHCHILD, Tring Park, Herts, for **Darlington Cranford 5th** (vol. 53, p. 1163), red, born Oct. 26, 1897, calved April 9, 1908, bred by George Taylor, Cranford, Middlesex; s. Lord Somerset Furbelow 65855, d. Darlington Cranford by Lord Somerset 10th 48249.

1010 II. (£6.)—LORD ROTHCHILD, for **Moppy Gem 5th** (vol. 53, p. 1165), red and little white, born April 10, 1897, calved May 31, 1908, bred by Taylor & Walton, Hall Garth, Kirkby Stephen; s. Dunottar 68554, d. Moppy Gem 2nd by Ingram Swell.

1009 III. (£4.)—LORD ROTHCHILD, for **Gift 2nd.** (See Class 100.)

1015 R. N. & H. C.—G. W. TYSER, Oakfield, Mortimer, for **Darlington Cran.**

Class 104.—*Group Class, consisting of a Bull of any age, not necessarily bred by Exhibitor, and three of his offspring, the property of the Exhibitor. Open to animals entered in Classes 91 to 102 only.*¹ [3 entries.]

1032 I. (£15.)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield, for **Meteor, Ashlyn's Meteor, Meteorite, and Shenstone Julianne.**

1034 II. (£10.)—HENRY SALVIN, Burn Hall, Durham, for **Crystal, Burnhall Polonius, Burnhall Nelly 16th, and Vixen.**

1033 R. N. & H. C.—LORD MIDDLETON, Birdsall House, York, for **Aaron, Birdeall Aeronaut, Birdsall Duchess 5th, and Duchess of Birdsall 5th.**

Class 105.—*Group Class, consisting of a Cow, of any age, not necessarily bred by Exhibitor, and three of her produce in direct line of descent on the female side, the property of the Exhibitor. Open to animals entered in Classes 91 to 102 only.* [2 entries.]

1035 I. (£15.)¹—WILLIAM BELL, Ratcheugh, Alnwick, for **Ratcheugh Witch, Ratcheugh Model, Ratcheugh Beauty, and Ratcheugh Lady.**

1036 II. (£10.)—HENRY WILLIAMS, Moor Park, Harrogate, for **Strowan Buttercup 18th, Duke of Lancaster, Nabob, Sweet Buttercup, and Royal Buttercup.**

Lincolnshire Red Short-horns.

N.B.—In the *Lincolnshire Red Short-horn Classes*, the number inserted within brackets after the name of an animal indicates that the animal is entered in *Coates's Herd Book*. A number without brackets indicates that the animal is registered in the *Lincolnshire Red Short-horn Herd Book*.

Class 106.—*Lincolnshire Red Short-horn Bulls, calved in 1903, 1904, or 1905.* [5 entries, none absent.]

1037 I. (£10.)—W. J. ATKINSON, Weston St. Mary, Spalding, for **Weston Monarch 4th 4187**, born April 24, 1904; s. Royal Crest (82149), d. Western Charm by Pippin's Pride.

1040 II. (£6.)—ROBERT CHATTERTON, Stenigot, Lincoln, for **Hallington Neptune 3904**, born July 18, 1903, bred by William Chatterton, Hallington, Louth; s. Nero 2991, d. by King Cresus 155.

1039 III. (£4.)—ROBERT CHATTERTON, for **Cicero 4314**, born Jan. 2, 1904, bred by L. W. Stephenson, South Thoresby, Alford; s. Scampton Bloodsucker 3043, d. by Baron Ormsby 3rd 26.

1038 R. N. & H. C.—H. W. BLUNT, Breedon-on-the-Hill, Ashby-de-la-Zouch, for **Breedon Champion.**

Class 107.—*Lincolnshire Red Short-horn Bulls, calved in 1906.*²
[2 entries.]

1043 I. (£10.)—JOHN EVENS, Burton, Lincoln, for **Burton Hermit 2nd 4724**, born May 7; s. Burton Hermit 3783, d. Saltfleet Favourite by Grandad 1561.

1042 II. (£6.)—ROBERT CHATTERTON, Stenigot, Lincoln, for **Flower Chief Consul**, born June 10; s. Red Chief 2611, d. Stenigot Flower 4th 5344 by County Member 83.

Class 108.—*Lincolnshire Red Short-horn Bulls, calved in 1907.*²
[7 entries, none absent.]

1044 I. (£10.)—ROBERT CHATTERTON, Stenigot, Lincoln, for **Stenigot Bloom Boy 2nd**, born Jan. 11; s. Ashby Red 2nd 3728, d. Stenigot Bloom 4th (vol. 9, p. 163) by Wolsley 1436.

1049 II. (£6.)—J. G. WILLIAMS, Pendley Manor, Tring, for **Pendley Boxer**, born June 26; s. Somercoates Bonus 4577, d. Benniworth Bloom 2nd by Boxer A 2118.

1046 III. (£4.)—JOHN EVENS, Burton, Lincoln, for **Deepond Benniworth 5290**, born March 2, bred by Ekins Ashley, Godmanchester; s. Bingham Lodge Benniworth 2752, d. Hurn Milker 2nd by Hurn 1st 2236.

1050 R. N. & H. C.—J. G. WILLIAMS, for **Pendley Count.**

¹ Prizes given by the Shorthorn Society.

² Prizes given by the Lincolnshire Red Short-horn Association.

lxxviii *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 109.—*Lincolnshire Red Short-horn Cows (in-milk), calved in or before 1904.*
[8 entries, 1 absent.]

- 1055 I. (£10.)—GEORGE MARRIS, Kirmington, Brocklesby, for **Keddington Favourite 4th**, born March 1, 1904, calved April 14, 1908, bred by E. H. Cartwright, Keddington Grange, Louth; s. Vanguard 2631, d. Keddington Favourite 3rd by Conisholme Boy 347.
1058 II. (£6.)—J. G. WILLIAMS, Pendley Manor, Tring, for **Starlight**, born April 10, 1899, calved Feb. 28, 1908, bred by E. H. Cartwright, Keddington Grange, Louth; s. The Count 1396, d. by Shooting Star 1674.
1051 III. (£4.)—EARL EGERTON OF TATTON, Tatton Park, Cheshire, for **Enderby Lass 4th**, born Sept. 17, 1901, calved April 7, 1908, bred by S. Crawley, Hemington, Oundle; s. Lord Chancellor 1606, d. Enderby Lass 3rd (vol. 7, p. 143) by Baron Ormsby 3rd 26.
1053 R. N. & H. C.—JOHN EVENS, Burton, Lincoln, for **Burton Quality 5th**.

Class 110.—*Lincolnshire Red Short-horn Heifers (in-milk), calved in 1905.*
[3 entries.]

- 1060 I. (£10.)—CAPT. E. M. GRANTHAM, The Rookery, West Keal, Spilsby, for **Keal Hilda** (vol. 13, p. 205), born April 13, calved Jan. 23, 1908; s. Scampton Excavator 4084, d. Keal Daisy by Saltfleet John Bull 1339.
1061 II. (£6.)—C. HENSMAN & SON, Fulletby Grange, Horncastle, for **Fulletby Royal**, born Jan. 15, calved Jan. 5, 1908, bred by the late George Laughton, Belchford, Horncastle; s. Norbury Cato 2993, d. by Saltfleet Ruby Chief 944.
1059 III. (£4.)—JOHN EVENS, Burton, Lincoln, for **Burton Royal Maid 3rd**, born July 23, calved May 19, 1908; s. Burton Challenger 3265, d. Burton Royal Maid (vol. 9, p. 173) by Professor 200.

Class 111.—*Lincolnshire Red Short-horn Heifers, calved in 1906.*¹
[4 entries.]

- 1063 I. (£10.)—C. HENSMAN & SON, Fulletby Grange, Horncastle, for **Fulletby Beauty A**, born March 31; s. Scampton Formula 4562, d. Fulletby Beauty by Poolham Butterman 9th 1978.
1065 II. (£6.)—J. G. WILLIAMS, Pendley Manor, Tring, for **Pendley Pearl**, born Jan. 27, bred by the late T. Bett, Benniworth Walk, Donington-on-Bain; s. Saltfleet Echo, 3038, d. Benniworth Pearl by Saltfleet Actor 1664.
1064 III. (£4.)—C. HENSMAN & SON, for **Fulletby Peony 3rd**, born July 31; s. Scampton Formula 4562, d. Fulletby Peony A (vol. 13, p. 208) by Poolham Butterman 9th 1978.
1062 R. N. & H. C.—EARL EGERTON OF TATTON, Tatton Park, for **Tatton Ruby**.

Class 112.—*Lincolnshire Red Short-horn Heifers, calved in 1907.*¹
[9 entries, none absent.]

- 1073 I. (£10.)—J. G. WILLIAMS, Pendley Manor, Tring, for **Pendley Skipworth**, born Feb. 23; s. Keddington Baron 4881, d. Keddington Skipworth 5th by Benniworth 4th 629.
1069 II. (£6.)—CAPT. E. M. GRANTHAM, The Rookery, West Keal, Spilsby, for **Keal Barbara**, born June 26; s. Keal Blois 4873, d. Keal Favourite (vol. 13, p. 206) by Stenigot Red 530.
1068 III. (£4.)—J. W. FARROW & SONS, Strubby Manor, Alford, for **Lady Cardiff 4th**, born May 6; s. Under Porter 3126, d. Lady Cardiff 2nd by Ormsby Baronet 2nd.
1072 R. N. & H. C.—JOHN SEARBY, Croft, Wainfleet, for **Croft Heroine 2nd**.

Class 113.—*Milk Yield Prizes, open to Lincolnshire Red Short-horn Cows and Heifers entered in Classes 109 and 110 only.* [4 entries.]

- 1054 I. (£10.)—JOHN EVENS, Burton, Lincoln, for **Burton Ruby Spot** (vol. 8, p. 418), born Sept. 10, 1898, calved Jan. 22, 1908; s. Professor 200, d. Red E by Hog 134.
1052 II. (£6.)—JOHN EVENS, for **Burton Cork 3rd** (vol. 12, p. 195), born Aug. 24, 1900, calved April 24, 1908; s. Red Rover (77618), d. Burton Cork 2nd by Rambler (69342).
1051 III. (£4.)—EARL EGERTON OF TATTON, for **Enderby Lass 4th**. (See Class 109.)
1053 R. N. & H. C.—JOHN EVENS, for **Burton Quality 5th**.

Herefords.²

Class 114.—*Hereford Bulls, calved in 1903, 1904, or 1905.*
[6 entries, none absent.]

- 1080 I. (£10, & Champion.³)—G. D. FABER, C.B., M.P., Rush Court, Wallingford, for **Rob Roy 24953**, born Feb. 17, 1905, bred by W. Tudge, Summer Court, Kington; s. Commandant 22040, d. Golden Blossom by Goldbox 15339.

¹ Prizes given by the Lincolnshire Red Short-horn Association.

² £29 towards these Prizes were given by the Hereford Herd Book Society.

³ Champion Prize of £10 10s. given by the Hereford Herd Book Society for the best Bull in Classes 114-116.

Award of Live Stock Prizes at Newcastle, 1908. lxxix

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 1075 II. (£6, & R. N. for Champion.¹)—H.M. THE KINO, Royal Farms, Windsor, for Admiral 23256, born Jan. 19, 1903; s. Earlsfield 19387, d. Angelica by Grove Prince 16745.
 1078 III. (£4.)—THE EARL OF COVENTRY, Croome Court, Severn Stoke, for Rabbi 24918, born June 19, 1905; s. Queen's Guard 23995, d. Rapture by Jeyro 16866.
 1079 R. N. & H. C.—H. R. EVANS, Court-of-Noke, Staunton-on-Arrow, for Pyon Gauntlet.

Class 115.—*Hereford Bulls, calved in 1906.* [8 entries, 4 absent.]

- 1085 I. (£10.)—P. & G. HUOHES, Gresty, Crewe, for Lancaster 25480, born April 10, bred by Mrs. E. Medicott, Bodenham, Leominster; s. Locarno 20797, d. Blossom 2nd by Lancer 21515.
 1387 II. (£6.)—C. T. PULLEY, Lower Eaton, Hereford, for Eaton Truant 25320, born March 15; s. Eaton Champion 21351, d. Dart by Truant 15758.
 1084 III. (£4.)—ALLEN E. HUOHES, Wintercott, Leominster, for Portrane 25659, born April 30; s. Pearl King 24192, d. Peach by Albion 15027.
 1081 R. N. & H. C.—PETER COATS, Sheepcote, Clifford, for Sunny Jim.

Class 116.—*Hereford Bulls, calved in 1907.* [9 entries, 4 absent.]

- 1089 I. (£15.)—W. H. COOKE, The Green, Stanford Bridge, Worcester, for Shelsley 26480, born Feb. 15; s. Gambler 20639, d. Hawthorn by Ruler 16365.
 1091 II. (£10.)—ALLEN E. HUOHES, Wintercott, Leominster, for Newbury 26328, born Feb. 3; s. Pearl King 24192, d. Nelly by Albion 15027.
 1093 III. (£4.)—C. T. PULLEY, Lower Eaton, Hereford, for Eaton Renown 26091, born Jan. 20; s. Eaton Champion 21351, d. Ashleaf by Success 20357.
 1097 R. N. & H. C.—A. P. TURNER, The Leen, Pembridge, for Vulcan.

Class 117.—*Hereford Cows or Heifers (in milk), calved in or before 1905.*

[5 entries, none absent.]

- 1099 I. (£10, & R. N. for Champion.²)—THE EARL OF COVENTRY, Croome Court, Severn Stoke, for Merriment (vol. 38, p. 362), born March 29, 1903, calved April 19, 1908; s. Fortunis 21396, d. Misbelief by Misercant 19595.
 1102 II. (£6.)—D. A. THOMAS, M.F., Llanwern, Newport, Mon., for Lovisine (vol. 37, p. 818), born April 19, 1905, calved Feb. 8, 1908, bred by Mrs. Hamblen-Williams Kingsland, Herefordshire; s. Commandant 22040, d. Silk weed by Albion 15027.
 1098 III. (£4.)—GEORGE BUTTERS, Hill House, Newton, Leominster, for Dorothy (vol. 38, p. 315), born Jan. 4, 1903, calved April 3, 1908; s. Greater Britain 21434, d. Newton Snowdrop by Abductor 17636.
 1100 R. N. & H. C.—H. W. TAYLOR, Showle Court, Ledbury, for Sceptre.

Class 118.—*Hereford Heifers, calved in 1906.* [7 entries, 4 absent.]

- 1107 I. (£10, & Champion.²)—ALLEN E. HUOHES, Wintercott, Leominster, for Lemster Plum (vol. 38, p. 532), born Jan. 20; s. Pearl King 24192, d. Ivington Plum by Malcolm 21575.
 1109 II. (£6.)—T. R. THOMPSON, Erwr Delyn, Penarth, for Beauty 4th (vol. 38, p. 786), born Jan. 29; s. Perfection 22450, d. Beauty 2nd by Clarence 15944.
 1105 III. (£4.)—PETER COATS, Sheepcote, Clifford, for Plum (vol. 38, p. 341), born Feb. 15; s. Endale 21366, d. Pretty Lass by Prince Richard 17450.

Class 119.—*Hereford Heifers, calved in 1907.* [14 entries, 2 absent.]

- 1114 I. (£10.)—RICHARD BRIGHT, Ivingtonbury, Leominster, for Ivington Bess, born Jan. 1; s. Marnion 20844, d. Bright's Oyster Girl (vol. 38, p. 296), by Glencoe 17279.
 1122 II. (£6.)—WILLIAM TUDGE, Summer Court, Kingston, for Di Vernon, born Jan. 18; s. Rob Roy 24953, d. Lyonia (vol. 36, p. 797) by Major Domo 20179.
 1119 III. (£4.)—SIR J. R. G. COTTERELL, BT., Garnons, Herefordshire, for Floradora, born Jan. 25; s. Baronet 20456, d. Fedora (vol. 33, p. 289) by Prairie Chief 17430.
 1110 R. N. & H. C.—H.M. THE KINO, Royal Farms, Windsor, for Daphne.

Devons.

Class 120.—*Devon Bulls, calved in 1903, 1904, 1905, or 1906.*

[6 entries, 1 absent.]

- 1126 I. (£10, & Champion.³)—MRS. A. C. SKINNER & SON, Pound, Bishop's Lydeard, for Capton Ploughboy 4923, born Oct. 13, 1903, bred by A. Bowerman, Capton Farm, Williton; s. Bean Planter 4139, d. Capton Escott 18646 by Lord Tarr 2822.
 1127 II. (£6.)—J. C. WILLIAMS, Caerhays Castle, Gorran, for Dianthus 4961, born Feb. 6, 1903; s. Dramatist 4015, d. Blooming Cow 5th 14281 by Whitehall 2175.
 1129 R. N. & H. C.—SIR FREDERICK WILLS, BT., Northmoor, Dulverton, for Northmoor Royal.

¹ Champion Prize of £10 10s. given by the Hereford Herd Book Society for the best Bull in Classes 114-116.

² Champion Prize of £10 10s. given by the Hereford Herd Book Society for the best Cow or Heifer in Classes 117-119.

³ Champion Prize of £10 10s. given by the Devon Cattle Breeders' Society for the best Bull in Classes 120 and 121.

lxxx *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 121.—*Devon Bulls, calved in 1907.* [4 entries, none absent.]

- 1133 I. (£10, & R. N. for Champion.¹)—MRS. A. C. SKINNER & SON, Pound, Bishop's Lydeard, for Pound Gladiator 6169, born Jan. 15; s. Cæsar 5174, d. Goodgirl 14663 by Goodboy 2414.
 1131 II. (£6.)—SAMUEL KIDNER, Bickley, Milverton, for Bickley Triumph 5959, born March 21; s. Bickley Quaker 4898, d. Uncle Tom's Lady B. 16318 by Uncle Tom 3821.
 1130 R. N. & H. C.—H.M. THE KING, Royal Farms, Windsor, for Nelson.

Class 122.—*Devon Cows or Heifers (in milk), calved in or before 1905.*

[6 entries, 1 absent.]

- 1135 I. (£10, & Champion.²)—T. S. MORGAN, Whimpe, Exeter, for Whimpe Kitty 1st 19573, born March 5, 1903, calved Jan. 2, 1908; s. Hestercombe Redlight 4417, d. Hursley Kitty 3rd 14950 by Humour 3286.
 1139 II. (£6.)—MRS. A. C. SKINNER & SON, Pound, Bishop's Lydeard, for Cowslip 2nd 20966, born in 1898, calved March 4, 1908, bred by Henry North, Honiton; s. Lord North 5583, d. Cowslip 17136 by Master Harry 2075.
 1138 R. N. & H. C.—THE HON. E. W. B. PORTMAN, for Lady Escott 4th.

Class 123.—*Devon Heifers, calved in 1906.* [5 entries, none absent.]

- 1144 I. (£10, & R. N. for Champion.²)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, for Lady Coot 21647, born March 27, bred by the late G. Risdon, Dunster, Taunton; s. Crusader 4954, d. Lovely 34th 18335 by Lord Escott 5th 4437.
 1141 II. (£6.)—T. S. MORGAN, Whimpe, Exeter, for Whimpe Daisy 1st 21512, born Jan. 11; s. Pound Mayor 4850, d. Hestercombe Daisy 17841 by Duke of Hestercombe 4020.
 1143 R. N. & H. C.—CHARLES MORRIS, Highfield Hall, St. Albans, for Pound Brassy 13th.

Class 124.—*Devon Heifers, calved in 1907.* [6 entries, 2 absent.]

- 1146 I. (£10.)—T. S. MORGAN, Whimpe, Exeter, for Whimpe Broadhorn 2nd 22187, born March 3; s. Gladiator 5253, d. Broadhorn 4th 17729 by Gav Lad 3589.
 1149 II. (£6.)—THE HON. E. W. B. PORTMAN, Hestercombe, Taunton, for Hestercombe Fashion 22260, born Jan. 9; s. Cæsar 5174, d. Favourite 2nd 20250 by Tea Planter 4677.
 1150 R. N. & H. C.—THE HON. E. W. B. PORTMAN, for Hestercombe Weigelia.

South Devons.³

Class 125.—*South Devon Bulls, calved in 1903, 1904, 1905, or 1906.*

[5 entries, 2 absent.]

- 1155 I. (£10.)—J. SPARROW WROTH, Coombe, Aveton Gifford, Kingsbridge, for Macbeth 1924, born May 10, 1903; s. Duke of York 1439, d. Netta 3rd 3653 by Marmion 631.
 1152 II. (£6.)—HAWKEN & SON, Okenbury, Kingston, Kingsbridge, for Elector 2354, born Jan. 25, 1905, bred by H. Fairweather, Malston, Sherford, Kingsbridge; s. High House Champion 1898, d. Milkmaid 2nd 4536 by Bruin 709.
 1154 R. N. & H. C.—J. SPARROW WROTH, for Dan Leno.

Class 126.—*South Devon Bulls, calved in 1907.* [9 entries, 1 absent.]

- 1159 I. (£10.)—W. H. LUSCOMBE, Creacombe, Yealmpton, for Morning Star 2965, born Jan. 25, bred by J. Sparrow Wroth, Coombe, Aveton Gifford; s. Macbeth 1924, d. Star's Countess 3998 by Widland Revelstoke 945.
 1158 II. (£6.)—BEN LUSCOMBE, South Langston, Aveton Gifford, Kingsbridge, for Prince Danilo 2997, born Feb. 26; s. Marquis 2175, d. Primrose 4529 by General Buller 1138.
 1156 III. (£4.)—BUTLAND BROS., Leigham, Plympton, for Cheerful Boy 2841, born June 1; s. Lo Ben 2167, d. Cheerful 5266 by Cromer 1276.
 1163 R. N. & H. C.—W. & H. WHITLEY, for Primley Archduke.

Class 127.—*South Devon Cows or Heifers (in milk), calved in or before 1905.*

[7 entries, 1 absent.]

- 1166 I. (£10.)—BEN LUSCOMBE, South Langston, Aveton Gifford, Kingsbridge, for May 4th 5453, born Dec. 24, 1903, calved Jan. 2, 1908; s. Masher 769, d. May 3481.
 1169 II. (£6.)—W. P. VOSPER, Merafield, Plympton, for Laura 5676, born Feb. 20, 1903, calved Jan. 27, 1908; s. Drummer 975, d. Cowslip 4th 3923 by Prince Edward 517.
 1165 R. N. & H. C.—BUTLAND BROS., Leigham, Plympton, for Handsome.

¹ Champion Prize of £10 10s. given by the Devon Cattle Breeders' Society for the best Bull in Classes 120 and 121.

² Champion Prize of £10 10s. given by the Devon Cattle Breeders' Society for the best Cow or Heifer in Classes 122-124.

³ £20 towards these prizes were given by Breeders of South Devon Cattle.

Award of Live Stock Prizes at Newcastle, 1908. lxxxi

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 128.—*South Devon Heifers, calved in 1906 or 1907.* [7 entries, 1 absent.]

1173 I. (£10.)—BUTLAND BROS., Leigham, Plympton, for Handsome 4th 6956, born March 15, 1906; s. Leigham Champion 1667, d. Handsome 4040 by Cromer 969.

1174 II. (£6.)—BEN LUSCOMBE, South Langston, Apton Gifford, Kingsbridge, for Favourite Maid 3rd 7168, born Jan. 20, 1906; s. Macbeth 1924, d. Favourite Maid 2nd 5450 by Masher 769.

1175 R. N. & H. C.—F. B. MILDMAI, M.P., Flete, Ivy Bridge, for Pinkey 3rd.

Class 129.—*Milk Yield Prizes, open to South Devon Cows and Heifers entered in Class 127 only.* [4 entries, none absent.]

1170 I. (£10.)—W. & H. WHITLEY, Primley Farm, Paignton, for Fancy 3321, born June 18, 1897, calved May 4, 1908, bred by Thomas Willing, Timley, Loddiswell; s. Prince 658, d. Dairymaid 894.

1171 II. (£6.)—J. SPARROW WROTH, Coombe, Apton Gifford, Kingsbridge, for Nosegay 4th 4365, born Jan. 4, 1900, calved April 17, 1908; s. Old Fashion 653, d. Nosegay 2nd 2737 by Counsellor 163.

Sussex.¹

Class 130.—*Sussex Bulls, calved in 1903, 1904, 1905, or 1906.*

[6 entries, 2 absent.]

1179 I. (£15, & Champion.²)—E. E. BRABY, Drungewick Manor House, Rudgwick, for Lord of Drungewick 5th 2038, born Jan. 6, 1904; s. Duke of Drungewick 3rd 1808, d. Laidsmith 7887 by Prince of Drungewick 1530.

1181 II. (£8, & R. N. for Champion.²)—W. G. FLADGATE, Apsley, Thakeham, Pulborough, for Apsley Liberty 2128, born June 4, 1905; s. Drungewick Prebble 4th. 1961, d. Libertine 7566 by Li Hung Chang 1474.

1184 III. (£4.)—W. A. THORNTON, Lock, Partridge Green, for Ben of Lock 2279, born May 17, 1906; s. Prince of Drungewick 3rd 1810, d. Lavant 15th 7825 by Facility 1455.

1183 R. N. & H. C.—C. NEWINGTON, Oakover, Ticehurst, for Bewbush Duke.

Class 131.—*Sussex Bulls, calved in 1907.* [6 entries, 3 absent.]

1188 I. (£15.) THE HON. R. P. NEVILL, Birling Manor, West Malling, for Birling Ralph 2378, born Jan. 5; s. Paley Major 2057, d. Birling Glory 9806 by Birling Gold 1922.

1189 II. (£8.)—EARL WINTERTON, M.P., Shillinglee Park, Petworth, for Shillinglee Bewbush 6th 2400, born Jan. 2, bred by the late Earl Winterton; s. Shillinglee Bewbush 2097, d. Sunlight 5th 9441 by Drungewick Prebble 1666.

Class 132.—*Sussex Cows or Heifers (in-milk), calved in or before 1905.*

[4 entries, 1 absent.]

1194 I. (£15.)—W. F. WINCH, Tilsden, Cranbrook, for Tilsden Jessie 10533, born March 1, 1905, calved Feb. 4, 1908; s. Ensign 1584, d. Jarrie 5279 by Ruby 2nd 721.

1192 II. (£8.)—W. G. FLADGATE, Apsley, Thakeham, Pulborough, for Lady Carex 9205, born Feb. 22, 1903, calved Feb. 9, 1908, bred by the late J. H. T. Broadwood, Capel, Surrey; s. Drungewick Prebble 2nd 1877, d. Carex 7028 by Drungewick 5th 1363.

1193 III. (£4.)—C. NEWINGTON, Oakover, Ticehurst, for Stonedown B1 8342, born Sept. 9, 1900, calved Jan. 21, 1908, bred by Percy Tew, Brightling Park, Sussex; s. Headley of Horsham 1571, d. Stonedown 7810 by Bedtime 1416.

Class 133.—*Sussex Heifers, calved in 1906.* [3 entries, 2 absent.]

1197 I. (£15.)—W. G. FLADGATE, Apsley, Thakeham, Pulborough, for Apsley Fairy 10766, born Jan. 19; s. Silver King 2022, d. Fairy 8818 by Drungewick Prebble 2nd.

Class 134.—*Sussex Heifers, calved in 1907.* [4 entries, 1 absent.]

1201 I. (£15.)—W. F. WINCH, Tilsden, Cranbrook, for Tilsden Careless 3rd 11602, born Feb. 20; s. Vicar 1772, d. Careless 90th 9240 by Jayes 1st 1841.

1199 II. (£8.)—W. G. FLADGATE, Apsley, Thakeham, Pulborough, for Apsley Fairy 2nd 11275, born Feb. 4; s. Silver King 2022, d. Fairy 8818 by Drungewick Prebble 2nd 1877.

1200 III. (£4.)—THE HON. R. P. NEVILL, Birling Manor, West Malling, for Birling Sylvia 11502, born Feb. 13; s. Paley Major 2057, d. Birling Bluebell 3rd 8294 by Duke of Birling 1562.

Welsh.³

Class 135.—*Welsh Bulls, calved on or after December 1, 1902, and before December 1, 1906.* [4 entries, none absent.]

1205 I. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for Madryn Madoc 297, born in May, 1904, bred by the late Robert Roberts, Bronygduir, Portmadoc; s. Madoc bach, d. Gwladys 2nd.

¹ £35 towards these Prizes were given by the Sussex Herd Book Society.

² Silver Medal given by the Sussex Herd Book Society for the best Bull in Classes 130 and 131.

³ £15 towards these Prizes were given by the Welsh Black Cattle Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1204 II. (£6.)—LORD HARLECH, Brogyntyn, Oswestry, for **Tybor** 211, born July 28, 1904, bred by W. E. Oakeley, The Plas, Tan-y-bwlch: s. Llymgwyn Bob 106, d. Melfed 1344 S.W.

1202 R. N. & H. C.—THE COED COCH TRUSTEES, Llawes-y-Coed Farm, Abergale, for **Mynach Du**.

Class 136.—*Welsh Bulls, calved on or after December 1, 1906, and before December 1, 1907.* [4 entries, none absent.]

1206 I. (£10.)—R. M. GREAVES, Wern, Portmadoc, for **Wern Goalkeeper**, born May 20, 1907; s. Wern Defender 45, d. Wern Bilberry 185 by Wern Cawr 42.

1208 II. (£6.)—MRS. WYNNE-FINCH, Voelas, Bettws-y-Coed, for **Camelot** 2nd, born April 5, 1907; s. Camelot 208, d. Blacken by Wern.

1207 R. N. & H. C.—THE UNIVERSITY COLLEGE OF NORTH WALES, for **Madryn Baden**.

Class 137.—*Welsh Cows or Heifers (in-milk), calved before December 1, 1905.* [2 entries.]

1211 I. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Sally** 2nd 917, born Feb. 12, 1905, calved Dec. 4, 1907; s. Madryn Duke 182, d. Madryn Sally 595 by Black Bear 390 N.W.

1210 II. (£6.)—R. M. GREAVES, Wern, Portmadoc, for **Abess** 4th 432, born Feb. 20, 1901, calved March 28, 1906, bred by Col. Henry Platt, C.B., Gordinog, Llanfairfechan; s. Cawr 417, d. Abess 3rd 1200 by City Councillor 341.

Class 138.—*Welsh Heifers, calved on or after December 1, 1905, and before December 1, 1906.* [5 entries, none absent.]

1215 I. (£10.)—R. M. GREAVES, Wern, Portmadoc, for **Wern Fortress** 739, born July 17, 1906; s. Wern Defender 45, d. Wern Backsheech 182 by Wern Cawr 42.

1216 II. (£6.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Sally** 3rd 922, born Jan. 17, 1906; s. Mafeking 181, d. Madryn Sally 595 by Black Bear 390.

1213 R. N. & H. C.—THE COED COCH TRUSTEES, for **Gogledd**.

Class 139.—*Welsh Heifers, calved on or after December 1, 1906, and before December 1, 1907.* [6 entries, none absent.]

1220 I. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for **Madryn Jet**, born Dec. 10, 1906; s. Madryn Hyfwr 187, d. Fdwng 586 by Dinorwie.

1217 II. (£6.)—R. M. GREAVES, Wern, Portmadoc, for **Wern Frigate**, born Dec. 6, 1906; s. Wern Defender 45, d. Bronyfrel 3rd by Mafeking 469.

1219 R. N. & H. C.—LORD HARLECH, Brogyntyn, Oswestry, for **Brogyntyn Cornelia**.

Red Polled.¹

Class 140.—*Red Polled Bulls, calved in 1903, 1904, 1905, or 1906.*

[9 entries, 4 absent.]

1225 I. (£10, & Champion.²)—LORD CRANWORTH, Letton, Norfolk, for **Davyson** 265th 9230, born Aug. 1, 1903, bred by John Hammond, Bale, East Dereham; s. Majiolini 3600, d. Davy 228th 17993 by Caistor Beaufleur 4782.

1231 II. (£6, & R. N. for Champion.²)—G. D. SMITH, Strensham Court, Worcester, for **Warwick** 9515, born Feb. 28, 1904, bred by J. P. Arkwright, Hatton, Warwickshire; s. Arthur 7802, d. Susie 18362 by Lancer 4190.

1224 III. (£4.)—SIR RICHARD COOPER, BT., Ashlyns Hall, Berkhamsted, for **Ashlyns Ruler** 9534, born June 13, 1905; s. Ashlyns Major 9192, d. Anna 18415 by Ashlyns Oscar.

1228 R. N. & H. C.—THE RT. HON. A. E. FELLOWES, for **Honingham Adjutant**.

Class 141.—*Red Polled Bulls, calved in 1907.* [9 entries, 6 absent.]

1232 I. (£10.)—T. BROWN & SON, Marham Hall, Downham Market, for **Juvenal** 9810, born Feb. 5; s. Pioneer 9292, d. Ina 19268 by Stately 9175.

1238 II. (£6.)—THE RT. HON. A. E. FELLOWES, Honingham Hall, Norwich, for **Honingham Audit** 9775, born Jan. 24; s. Honingham Alake 9438, d. Honingham Aunty 19846 by Honingham Archduke 9102.

1235 III. (£4.)—LORD CRANWORTH, Letton, Norfolk, for **Bonny Boy** 9780, born Jan. 6, bred by H. Blofield, Morley Manor, Wymondham; s. Jupiter Tonans 8972, d. Beauty 16160 by Magician 5021.

Class 142.—*Red Polled Cows or Heifers (in-milk), calved in or before 1905.* [12 entries, 3 absent.]

1242 I. (£10.)—T. BROWN & SON, Marham Hall, Downham Market, for **Frill** 18051, born Oct. 8, 1901, calved May 4, 1908; s. Wentworth 5257, d. Freda 10287 by Erebus 841.

¹ £20 towards these Prizes were given by the Red Polled Society.

² Champion Prize of £5 given by the Red Polled Society for the best Bull in Classes 140 and 141.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 1252 II. (£6.)—G. D. SMITH, Strensham Court, Worcester, for Evelyn 19176, born March 10, 1903, calved Nov. 10, 1907, bred by Sir J. F. Dillon, Lisnullen, Navan; s. Garrett 5500, d. Eve 8516 *by* Frank of Delvin 1824.
- 1244 III. (£4.)—SIR WALTER CORBET, BT., Acton Reynold, Shrewsbury, for Waxlight 2nd 18965, born Feb. 26, 1902, calved April 12, 1908, bred by Lord Amherst of Hackney, Didlington Hall, Norfolk; s. Royal Standard 8707, d. Wax Doll 2nd 9068 *by* Red Shirt 2014.
- 1246 R. N. & H. C.—LORD CRANWORTH, Letton, Norfolk, for Sceptre.

Class 143.—*Red Polled Heifers, calved in 1906.* [5 entries, 1 absent.]

- 1254 I. (£10, & Champion.¹)—SIR RICHARD COOPER, BT., Ashlyns Hall, Berkhamsted, for Ashlyns Maid 20633, born March 1; s. Royal Standard 8707, d. Ashlyns Handsome 16132 *by* Rubelite 5182.
- 1253 II. (£6.)—T. BROWN & SON, Marham Hall, Downham Market, for Plume 2nd 20846, born Jan. 5, bred by Lord Amherst of Hackney, Didlington Hall, Norfolk; s. Robin 9160, d. Plume 19404 *by* Redvers 6570.
- 1257 III. (£4.)—THE MARCHIONESS OF GRAHAM, Easton Park, Wickham Market, for Mimosa 20796, born Feb. 3, bred by H. P. Blofield, Morley Manor, Wymondham; s. Jupiter Tonans 8972, d. Beauty 16160 *by* Magician 5021.
- 1255 R. N. & H. C.—LORD CRANWORTH, Letton, Norfolk, for Bunch of Roses 3rd.

Class 144.—*Red Polled Heifers, calved in 1907.* [6 entries, 1 absent.]

- 1258 I. (£10, & R. N. for Champion.¹)—SIR RICHARD COOPER, BT., Ashlyns Hall, Berkhamsted, for Ashlyns Duchess 21020, born Feb. 7; s. Ashlyns Duke 9528, d. Countess 16396 *by* General 6234.
- 1260 II. (£6.)—THE RT. HON. A. E. FELLOWES, Honingham Hall, Norwich, for Honingham Argentina 21019, born April 9; s. Honingham Argentine 9588, d. Ardent 14469 *by* The Pope 4581.
- 1262 III. (£4.)—THE MARCHIONESS OF GRAHAM, Easton Park, Wickham Market, for Arathusa 21018, born March 23; s. Redskin 9623, d. Lavinia of Easton 9502 *by* Factor.
- 1261 R. N. & H. C.—THE RT. HON. A. E. FELLOWES, for Honingham Avon 4th.

Class 145.—*Milk Yield Prizes, open to Red Polled Cows and Heifers entered in Class 142 only.* [6 entries, 1 absent.]

- 1247 I. (£10.)—LORD ROTHSCHILD, Tring Park, Herts, for Clarissa 13315, born Dec. 1, 1898, calved April 24, 1908, bred by Garrett Taylor, Whittingham, Norwich; s. Redmond 5147, d. Chrissy 6246 *by* Master Falstaff 1233.
- 1249 II. (£6.)—LORD ROTHSCHILD, for Silk 17667, born March 29, 1900, calved May 11, 1908, bred by Garrett Taylor; s. Red Rover 5149, d. Sunshine 8239 *by* Starlight 2531.
- 1248 III. (£4.)—LORD ROTHSCHILD, for Lorna Doone 18712, born July 15, 1902, calved April 26, 1908; s. Rhodas 8651, d. Ladylike 2nd 11425 *by* Telephone 4174.

Aberdeen Angus.²

Class 146.—*Aberdeen Angus Bulls, calved on or after December 1, 1902, and before December 1, 1905.* [16 entries, none absent.]

- 1276 I. (£15, & Champion.³)—D. M. MACRAE, Stenhouse, Thornhill, for Everlasting of Ballindalloch 24435, born March 22, 1905, bred by Sir George Macpherson Grant, Bt., The Castle, Ballindalloch; s. Delamere 13305, d. Evessa 26911 *by* Sutherland 13983.
- 1266 II. (£10, & R. N. for Champion.³)—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, for Everwise 24436, born Jan. 19, 1905; s. Wizard of Maisemore 21465, d. Evergreen 7th 33414 *by* Eimeo 12450.
- 1265 III. (£4.)—J. S. CLARK, Dundas Castle, South Queensferry, for April Fool of Drumfad 22866, born April 12, 1904, bred by C. Dunbar-Buller, Woburn, Donaghadee; s. Morman Barn 16974, d. Augusta of Drumfad 29923 *by* Cutler 13281.
- 1264 IV. (£3, & Special.⁴)—T. H. BAINBRIDGE, Eshott Hall, Felton, for Idelamere 22036, born Feb. 23, 1903; s. Maramere 18160, d. Ideal 26739 *by* Mailbag 13637.
- 1279 V. (£3.)—R. C. SWAN, Rockcliffe Park, Darlington, for Eliphaz 23103, born April 17, 1904, bred by Sir George Macpherson Grant, Bt., The Castle, Ballindalloch; s. Kreston 18021, d. Elision 31937 *by* Prince of Irish 13844.
- 1275 R. N. & H. C.—JOHN MACPHERSON, Mulben, Keith, for Imry.

¹ Champion Prize of £5 given by the Red Polled Society for the best Cow or Heifer in Classes 142-144.

² £108 towards these Prizes were given by the Newcastle Local Committee.

³ Gold Medal given by the Polled Cattle Society for the best Animal in Classes 146-152.

⁴ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Bull in Classes 146-148.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 147.—Aberdeen Angus Bulls, calved on or after December 1, 1905, and before December 1, 1906. [7 entries, 2 absent.]

- 1285 I. (£15).—CLEMENT STEPHENSON, Sanddyford Villa, Newcastle-on-Tyne, for **Patna** 26089, born Dec. 26, 1905, bred by J. E. Kerr, Harviestoun Castle, Dollar; s. Buttress 16357, d. Priscilla of Arngomery 28689 by Norfolk 5th 7022.
 1281 II. (£10).—SIR GEORGE A. COOPER, BT. Hursley Park, Winchester, for **Premier of Hursley** 26142, born March 11, 1906; s. Evolsurus 21908, d. Pride 7th of Coynachie 33021 by Statesman of Coynachie 17308.
 1282 III. (£4).—W. B. GREENFIELD, Haynes Park, Bedford, for **Rustic of Haynes** 26369, born Dec. 2, 1905; s. Gay Boy of Danesfield 21967, d. Ruth of Haynes 5th 37512 by Just Rover of Morlich 15605.
 1286 R. N. & H. C.—WILLIAM WATT, Middlefield, Coupar, Fife, for **Justus of Morlich**.

Class 148.—Aberdeen Angus Bulls, calved on or after December 1, 1906, and before December 1, 1907. [10 entries, 1 absent.]

- 1292 I. (£15).—JAMES KENNEDY, Doonholm, Ayr, for **Mondello** 27193, born Dec. 15, 1906; s. Evarra 20507, d. Myrica 32175 by Rover of Craibstone 12948.
 1295 II. (£10).—A. D. MACRAE, Ruthven, Kingussie, for **Earl Echo of Ballindalloch** 26706, born March 13, 1907, bred by Sir George Macpherson Grant, BT, The Castle, Ballindalloch; s. Eblamere 21781, d. Evening Echo 31940 by Bion 11454.
 1288 III. (£4).—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Magnificent** 27115, born April 20, 1907; s. Idelamere 22036, d. Matilda 7th of Aldban 31515 by Marvel of Advie.
 1291 IV. (£3).—R. W. HILL, Balthayock, Perth, for **Sunrise of Balthayock** 27572, born Dec. 2, 1906; s. Enochdhu 21848, d. Sunray of Harviestoun 34059 by Kidnapper 9300.
 1287 R. N. & H. C.—LORD ALLENDALE, Bywell Hall, Stocksfield, for **Tartan Tego**.

Class 149.—Aberdeen Angus Cows (in-milk), calved before December 1, 1904. [9 entries, 1 absent.]

- 1297 I. (£15, Special,¹ & R. N. for Champion.²)—LORD ALLENDALE, Bywell Hall, Stocksfield-on-Tyne, for **Velozia of Glamis** 36440, born March 26, 1903, calved March 16, 1908, bred by the late Earl of Strathmore, Glamis Castle, Glamis; s. Fairy King of Kirkbridge 11662, d. Verdant Vine 29445 by Knight o' the Heather 14564.
 1303 II. (£10).—W. B. GREENFIELD, Haynes Park, Bedford, for **Darling of Haynes** 4th 37504, born Feb. 7, 1904, calved April 24, 1908; s. Just Rover of Morlich 15605, d. Darling of Flamstead Bury 26991 by King of Paris 6869.
 1299 III. (£4, & R. N. for Special.¹)—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Mistress Nellie** 32975, born May 9, 1901, calved Nov. 29, 1907, bred by George Willsner, Pitpointie, Dundee; s. Just Judge of Morlich 15604, d. Nell Gwynne of Pitpointie 24945 by Erica Lad 11644.
 1300 R. N. & H. C.—SIR GEORGE A. COOPER, BT., for **Fabiana**.

Class 150.—Aberdeen Angus Heifers (in-milk), calved on or after December 1, 1904, and before December 1, 1905. [6 entries, none absent.]

- 1311 I. (£15, & Champion.²)—JAMES KENNEDY, Doonholm, Ayr, for **Euroto** 39206, born Dec. 5, 1904, calved Nov. 7, 1907; s. Mondamin 18240, d. Even 26499 by Rhombus of Glamis 13901.
 1307 II. (£10).—DAVID ARNOT, Mains Edzell, Edzell, for **Violet 3rd of Congash** 39314, born Dec. 11, 1904, calved Jan. 20, 1908, bred by John M'Ainsh, Congash, Granttown-on-Spey; s. Dispatch of Wyrley 21740, d. Violet of Congash 34214 by Clive 14326.
 1310 III. (£4).—COL. G. S. GRANT, Auchorachan, Glenlivet, for **Legend E 2nd** 39043, born March 27, 1905, calved Dec. 13, 1907; s. Prince Forest 21106, d. Legend E 25510 by Equestrian 9953.
 1309 R. N. & H. C.—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Estrella of Eshott**.

Class 151.—Aberdeen Angus Heifers, calved on or after December 1, 1905, and before December 1, 1906. [12 entries, 5 absent.]

- 1317 I. (£15).—JAMES KENNEDY, Doonholm, Ayr, for **Ellen Terry** 40745, born Dec. 20, 1905; s. Evarra 20507, d. Emite of Addington 32928 by Kilgraston 15610.
 1316 II. (£10).—R. W. HILL, Balthayock, Perth, for **Mariana of Balthayock** 40680, born Feb. 15, 1906; s. Mastermere 24739, d. Mayor of Auchnagie 37812 by Flying Fox of Lochineal 20557.
 1315 III. (£4).—W. B. GREENFIELD, Haynes Park, Bedford, for **Rhona of Haynes** 40647, born Jan. 29, 1906; s. Royal Justice of Haynes 22664, d. Rhona 3rd of Danesfield 35790 by Danesfield Jester 18949.

¹ Special Prize of £10 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Cow or Heifer in Classes 149-152.

² Gold Medal given by the English Aberdeen Angus Cattle Association for the best Animal of the opposite sex to that of the Animal awarded the Gold Medal of the Polled Cattle Society in Classes 146-152.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1314 IV. (£3.)—COL. G. S. GRANT, Auchorachan, Glenlivet, for **Silva of Auchorachan** 40573, born March 7, 1906; s. Lewald 23421, d. Sheva 33801 by Liner 15651.

1312 R. N. & H. C.—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Ebbtide of Eshott**.

Class 152.—*Aberdeen Angus Heifers, calved on or after December 1, 1906, and before December 1, 1907.* [16 entries, none absent.]

1333 I. (£15.)—JAMES KENNEDY, Doonholm, Ayr, for **Ermosa** 42354, born Dec. 12, 1906; s. Evarra 20507, d. Eruca 34049 by Mailbag 13637.

1326 II. (£10.)—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Eureta** 42361, born Feb. 16, 1907, bred by J. E. Kerr, Harviestoun Castle, Dollar; s. Prince of the Wassail 23751, d. Eureka of Sands 37658 by Sutherland 13983.

1325 III. (£4.)—T. H. BAINBRIDGE, for **Eolienne** 41576, born Feb. 8, 1907; s. Proud Egmont 24990, d. Encolonia 2nd 33136 by Norman of East Town 20984.

1329 IV. (£3.)—J. J. CRIDLAN, Home Farm, Maisemore Park, Gloucester, for **Brave Maid** 41857, born Dec. 22, 1906; s. Elate 16513, d. Ballista 5th 36507 by Potiphar 19648.

1339 R. N. & H. C.—R. C. SWAN, Rockcliffe Park, Darlington, for **Estelle of Rockcliffe**.

Class 153.—*Group Class, of not less than four Animals of any sex shown in Classes 146 to 152.* [5 entries, none absent.]

1343 I. (£15.)—JAMES KENNEDY, Doonholm, Ayr, for **Mondello, Euroto, Ellen Terry, and Ermosa**.

1341 II. (£10.)—T. H. BAINBRIDGE, Eshott Hall, Felton, for **Idelamere, Mistress Nellie, Estrella of Eshott, and Gleesome**.

Galloways.¹

Class 154.—*Galloway Bulls, calved on or after December 1, 1902, and before December 1, 1906.* [12 entries, 4 absent.]

1348 I. (£15, & Champion.²)—THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T., Drumlanrig Castle, Thornhill, for **Romulus** 9421, born March 3, 1905; s. Grandee 8449, d. Lady Laugh 15974 by Macduff 5905.

1345 II. (£10, & R. N. for Champion.²)—T. BIGGAR & SONS, Chapelton, Dalheattie, for **Idaho** 9140, born Sept. 15, 1903; s. Excelsior 7702, d. Lady Stanley 10th 15432 by Golden Age 6660.

1355 III. (£4.)—T. & R. GRAHAM, Marchfield, Dumfries, for **Marchfield Despised** 10149, born Jan. 2, 1906, bred by the Duke of Buccleuch and Queensberry, K.G., K.T., Drumlanrig, Thornhill; s. Grandee 8449, d. Pride 28th by Earl of Annandale 8050.

1350 R. N. & H. C.—THE COUNTESS OF CARLISLE, for **Bruce of Naworth**.

Class 155.—*Galloway Bulls, calved on or after December 1, 1906, and before December 1, 1907.* [6 entries, none absent.]

1360 I. (£15.)—ROBERT GRAHAM, Auchengassel, Twynholm, for **War Boy of Craighouse** 10176, born Jan. 28, 1907, bred by W. & D. Wilson, Craighouse, Lockerbie; s. War Cry of Whitehill 9566, d. Nora of Craighouse 18568 by Woodland Prince 8772.

1357 II. (£10.)—T. BIGGAR & SONS, Chapelton, Dalheattie, for **Sweepstakes** 10001, born May 16, 1907, bred by Col. J. M. Kennedy, M.V.O., Milton Park, Dalry, Galloway; s. Hall Mark 8841, d. Woodlime of Blaquhairn 16812 by Hugh of Lockenkit 6449.

1361 III. (£4.)—ANDREW MONTGOMERY, Nether Hall, Castle Douglas, for **Baron** 10033, born Dec. 2, 1906, bred by John Blackley, Marchhill, Dumfries; s. Chancellor 9010, d. Miss Sally 7th of Tarbreoch 18423 by Lord William 7108.

1359 R. N. & H. C.—ROBERT GRAHAM, for **Jackboots of Auchengassel**.

Class 156.—*Galloway Cows or Heifers (in milk), calved before December 1, 1905.* [7 entries, 1 absent.]

1363 I. (£15, & Champion.³)—T. BIGGAR & SONS, Chapelton, Dalheattie, for **Flora Macdonald** 16422, born May 22, 1900, calved Feb. 7, 1908, bred by the Exors. of the late James Cunningham, Tarbreoch, Dalheattie; s. Winsome 6707, d. Baroness 2nd of Tarbreoch 14748 by Campfollower 5042.

1365 II. (£10.)—SIR ROBERT W. BUCHANAN-JARDINE, BT., Castlemilk, Lockerbie, for **Black Belle of Castlemilk** 17012, born March 24, 1903, calved Jan. 10, 1908; s. The Pathfinder 3rd 5991, d. Blue Bell 5th of Castlemilk 13868 by Black Douglas of Castlemilk 5002.

1367 III. (£4.)—JOHN CUNNINGHAM, Tarbreoch, Dalheattie, for **Dorrit of Castlemilk** 17387, born Jan. 3, 1902, calved April 30, 1908, bred by Sir Robert Jardine, BT., Castlemilk, Lockerbie; s. The Pathfinder 3rd 5991, d. Lady Isabella Douglas 7th of Castlemilk 15907 by Rascal 6118.

1368 R. N. & H. C.—JOHN CUNNINGHAM, for **Maggie Lauder** 5th of Tarbreoch.

¹ £45 towards these Prizes were given by the Galloway Cattle Society.

² Champion Prize of £5 5s. given by the Galloway Cattle Society for the best Bull in Classes 154 and 155.

³ Champion Prize of £5 5s. given by the Galloway Cattle Society for the best Cow or Heifer in Classes 156 and 158.

lxxxvi *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 157.—*Galloway Heifers, calved on or after December 1, 1905, and before December 1, 1906.* [13 entries, 2 absent.]

- 1378 I. (£15, & R. N. for Champion.¹)—ROBERT GRAHAM, Auchengassel, Twynholm, for *Isa Violet of Auchengassel* 19175, born March 17, 1906; s. *Black Pearl* 9190, d. *Violet* 3rd of *Cally* 13781 by *Campfollower's Heir* 5573.
 1376 II. (£10.) A. H. FOX-BROCKBANK, The Croft, Kirksanton, for *Louisa of Blackcombe* 19593, born April 10, 1906, bred by Robert Graham, Auchengassel, Twynholm; s. *Black Pearl* 9190, d. *Laurel of Castlemilk* 17383 by *Maris* 3rd of *Castlemilk* 7687.
 1381 III. (£4.)—W. M. NEILSON, Queenshill, Ringford, for *Jura of Queenshill* 19095, born Jan. 5, 1906; s. *Roderick Dhu of Queenshill* 8487, d. *Jeanie of Queenshill* 17979 by *Gay Stanley* 7122.
 1380 IV. (£3.)—W. M. NEILSON, for *Ena of Queenshill* 19092, born Dec. 12, 1905; s. *Roderick Dhu of Queenshill* 8487, d. *Miss Emily* 3rd 15469 by *Campfollower* 5042.
 1379 R. N. & H. C.—T. & R. GRAHAM, Marchfield, Dumfries, for *Logan Lassie*.

Class 158.—*Galloway Heifers, calved on or after December 1, 1906, and before December 1, 1907.* [13 entries, 3 absent.]

- 1387 I. (£15.)—JOHN CUNNINGHAM, Tarbreoch, Dalbeattie, for *Maggie Lauder* 7th of *Tarbreoch* 19512, born Jan. 3, 1907; s. *Chancellor* 9010, d. *Maggie Lauder* 17416 by *Macdougall* 4th of *Tarbreoch* 6841.
 1386 II. (£10.)—THE COUNTESS OF CARLISLE, Naworth Castle, Brampton, for *Sara* 3rd of *Naworth* 1139, born Jan. 12, 1907; s. *Bruce of Naworth* 62, d. *Sara of Naworth* 450 by *Sir Duncan* 5903.
 1391 III. (£4.)—F. N. M. GOURLAY, Broomfield, Moniaive, for *Favourite of Craigneston* 19625, born Jan. 11, 1907; s. *Pioneer of Kilgubanity* 8470, d. *Favourite* 12th of *Lochenkit* 16456 by *Contender* 4th of *Tarbreoch* 5994.
 1389 R. N. & H. C.—A. H. FOX-BROCKBANK, for *Jasmine* 2nd of *Blackcombe*.

Highland.²

Class 159.—*Highland Bulls, calved in or before 1905.*

[No entry.]

Class 160.—*Highland Bulls, calved in 1906 or 1907.*

[3 entries, 1 absent.]

- 1396 I. (£10.)—SIR DONALD CURRIE, G.C.M.G., Balmacraig, Fortingall, for *Morair Bhealaich*, red, born Feb. 8, 1906, bred by the Marquis of Breadalbane, K.G., Taymouth Castle, Aberfeldy; s. *Adholack* 2nd 1167, d. *Mysie* 8th of *Taymouth* 6646 by *Beinn Iadain* 1456.
 1398 II. (£6.)—WILLIAM SOPPER, Dunmaglass, Daviot, Inverness, for *Agamemnon*, red brindled, born Jan. 12, 1906; s. *King Alaric* 1712, d. *Aggie* of *Dunlossit* 5166 by *Domhnall na Ardmore* 1224.

Class 161.—*Highland Cows or Heifers (in-milk), calved in or before 1904.*

[1 entry.]

- 1399 I. (£10.)—WILLIAM SOPPER, Dunmaglass, Daviot, Inverness, for *Madam Luna* 5289 yellow, born Jan. 11, 1900, calved April 21, 1908, bred by the late Earl of Southesk K.T., Kinnaird Castle, Brechin; s. *Laioch* 1260, d. *Luna* 2297 by *Iain Challum* 667.

Class 162.—*Highland Heifers, calved in 1905, 1906 or 1907.*

[4 entries, none absent.]

- 1403 I. (£10.)—WILLIAM SOPPER, Dunmaglass, Daviot, Inverness, for *Diana of Dunmaglass*, yellow, born Jan. 25, 1906; s. *King Alaric* 1712, d. *Madam Denis* 5283 by *Laioch* 1260.
 1401 II. (£6.)—W. J. NIMMO, Castle Eden, for *black*, born April 21, 1905; s. *Carrington* 1327, d. *Neonan Og of Garbole* 2nd by *Fear-a-Bhaile* of *Garbole* 1354.
 1402 III. (£4.)—W. J. NIMMO, for *yellow heifer*, born Feb. 10, 1907, bred by John Stewart, Bochastle, Callander; s. *Alastair of Fare* 1761, d. *Emily dubh* 2nd 6597 by *Victor* 15th 1292.

Ayrshires.

Class 163.—*Ayrshire Bulls, calved in 1903, 1904, 1905, or 1906.*

[4 entries, 1 absent.]

- 1404 I. (£10.)—JAMES HOWIE, Hillhouse, Kilmarnock, for *Howie's Reliable*, white and little brown, born Feb. 9, 1906; s. *Not Likely* of *Hillhouse* 4469, d. *Borelands Cocade*.

¹ Champion Prize of £5 5s. given by the Galloway Cattle Society for the best Cow or Heifer in Classes 156 and 158.

² £20 10s. towards these Prizes were given by the Highland Cattle Society of Scotland.

Award of Live Stock Prizes at Newcastle, 1908. lxxxvii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 1405 II. (£6).—JAMES HOWIE, for **Nether Craig Spicy Sam** 5927, white and brown spots, born Jan. 20, 1904, bred by Robert Forrest, Knockinlaw, Kilmarnock; s. Not Likely of Hillhouse 4469, d. Hareshaw 7th of Orchardton 8324 by White Bonnet of Orchardton 2023.
- 1407 III. (£4).—D. & H. WILSON, Auchincloigh, Ochiltree, for **Baron's Best** 6803, white and little brown, born in March, 1906, bred by M. Logan, Bargenoch, Drogan, Ayrshire; s. Bargenoch Durward Lily 5559, d. Bargenoch Snowdrop 3rd 15605 by Baron Wallace of Bogwood 3098.

Class 164.—Ayrshire Bulls, calved in 1907.¹ [4 entries.]

- 1408 I. (£10). JAMES HOWIE, Hillhouse, Kilmarnock, for **Howie's All-u-Want**, white and brown, born Jan. 19, bred by Tom Scott, Netherhall, Lanark; s. Douglas Monarch 6292, d. Netherhall Susy 7th 20307 by General Macdonald of Hillhouse 4602.
- 1409 II. (£6).—ANDREW MITCHELL, Barcheskie, Kirkcudbright, for **Barcheskie Ferrier**, white and brown, born Feb. 20, bred by Robert Wallace, Auchenbrain, Mauchline; s. Monkland Guarantee 6245, d. Beauty by Sir Thomas 2760.
- 1411 III. (£4).—ROBERT OSBORNE, Morton Mains, Thornhill, for **Morton Mains Valmont**, white and brown, born April 3; s. Carsegowan Duke of Wigtown 4735, d. Wynholm Aldowrie 15519 by Gigantic Stunner of Wynholm 3872.
- 1410 R. N. & H. C.—ANDREW MITCHELL, for **Samson**.

Class 165.—Ayrshire Cows or Heifers (in-milk), calved in or before 1905.

[9 entries, 4 absent.]

- 1418 I. (£10).—A. W. & I. KERR, Old Graitney, Greta, Carlisle, for **Old Graitney Soncie** 7th 18252, red and white, born in Sept. 1903, calved June 14, 1908; s. Sir John of Old Graitney 4035, d. Soncie of Old Graitney.
- 1414 II. (£6). CHARLES DOUGLAS, Auchlochan, Lesmahagow, for **Holehouse Duchess** 5th 16404, white and brown, born April, 1902, calved June 4, 1908, bred by Robert Woodburn, Holehouse, Galston; s. Flora's Chief of Adamshill 3955, d. Duchess of Holehouse 9206 by Traveller's Heir of Holehouse 2903.
- 1419 III. (£4).—A. W. & I. KERR, for **Old Graitney Soncie** 8th 19545, white and red, born Jan. 1904, calved June 11, 1908; s. Sir John of Old Graitney 4035, d. Soncie 1st of Old Graitney by Peter of Whithill 1397.
- 1417 R. N. & H. C.—JAMES HOWIE, Hillhouse, Kilmarnock, for **Midland Greenfield**.

Class 166.—Ayrshire Cows or Heifers (in calf), calved in or before 1905¹.

[7 entries, 3 absent.]

- 1422 I. (£10).—CHARLES DOUGLAS, Auchlochan, Lesmahagow, for **Auchlochan Rosette** 21547, white and brown, born April 1904, bred by A. Macfarlane, Nutch Kilchattan, Rothesay; s. Nutch Kilchattan Sir Kenneth 6773, d. Rosie by Nutch Kilchattan Provost 6772.
- 1424 II. (£6).—COL G. J. FERGUSON-BUCHANAN, Auchentorlie, Bowling, for **Auchentorlie Bloomer** 6th 16644, white, born May, 1901, bred by James Lawrie, West Newton, Strathaven; s. Sir John of Old Graitney 4035, d. Bloomer 2nd of West Newton 10689 by Major of West Newton 2902.
- 1423 III. (£4).—COL G. J. FERGUSON-BUCHANAN, for **Auchentorlie Bella** 18671, brown and white, born April 17, 1905; s. Auchentorlie Rum Ration 4806, d. Auchentorlie Specky 17820 by Sir John of Old Graitney 4035.
- 1425 R. N. & H. C.—A. W. & I. KERR, Old Graitney, for **Old Graitney Fair Helen**.

Class 167.—Ayrshire Heifers, calved in 1906 or 1907. [3 entries.]

- 1430 I. (£10).—ROBERT OSBORNE, Morton Mains, Thornhill, for **Morton Mains Phyllida** 20838, white and brown, born Jan. 5, 1906; s. Carsegowan Duke of Wigtown 4735, d. First Favourite of Wynholm 13709 by Sultan of Auchenbainzie 3071.
- 1429 II. (£6).—ROBERT OSBORNE, for **Morton Mains Kymaline** 20836, brown and white, born Jan. 25, 1906; s. Carsegowan Duke of Wigtown 4735, d. Nellie of Wynholm 11741 by Famous Design of Wynholm 3118.
- 1428 III. (£4).—ROBERT OSBORNE, for **Morton Mains Chlorissa** 20832, white and dark brown, born Feb. 4, 1906; s. Carsegowan Duke of Wigtown 4735, d. Belle 3rd of Wynholm 12838 by Sultan of Auchenbainzie 3071.

Class 168.—Milk Yield Prizes, open to Ayrshire Cows and Heifers entered in Class 165 only. [3 entries.]

- 1420 I. (£10).—W. NISBET, Lordship, Hinxton, Saffron Walden, for **Dalffibble Daisy Bell** 16961, black and white, born Dec. 25, 1900, calved Feb. 20, 1908, bred by John Mackie, Parkgate, Dalffibble, Dumfries; s. Knockdon of Sarkshields 3725, d. Tibbie of Dalffibble 13233 by Ruler of Aitchison's Bank 3105.
- 1417 II. (£6).—JAMES HOWIE, Hillhouse, Kilmarnock, for **Midland Greenfield** (vol. 30, p. 697), white and brown, born 1901, calved April 19, 1908, bred by J. Dixon, Kirkgunzeon, Dumfries.
- 1418 III. (£4).—A. W. & I. KERR, for **Old Graitney Soncie** 7th. [See Class 165.]

¹ Prizes given by the Ayrshire Cattle Herd Book Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Jerseys.

N.B.—In the Jersey Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Island Herd Book. A number without brackets indicates that the animal is registered in the English Jersey Herd Book.

Class 169.—Jersey Bulls, calved in 1903, 1904, 1905, or 1906.

[10 entries, 1 absent.]

- 1438 I. (£10, & Special.¹)—A. MILLER-HALLETT, Goddington, Chelsfield, for *Alfriston's Pride* 9131, whole colour, born July 19, 1905; s. Goddington Brownie 8526, d. *Alfriston Gem* by Golden Lad 3324.
 1435 II. (£6.)—LADY DE ROTHSCCHILD, Aston Clinton, Tring, for *Stormer* 9431, whole colour, born March 23, 1906, bred by Lord Rothschild, Tring Park, Herts; s. *Franc Fiefs Jolly* 8187, d. *Syren 3rd* by *La Chasse Prince* 5243.
 1437 III. (£4.)—MRS. C. MCINTOSH, Havering Park, Romford, for *Royal Ensign* 9053, black, born June 1, 1905, bred by Lord Rothschild, Tring Park, Herts; s. *Franc Fiefs Jolly* 8187, d. *Lady Rotha* by *Red Rover* 7346.
 1436 R. N. & H. C.—MRS. C. MCINTOSH, for *La Fosse Hero*.

Class 170.—Jersey Bulls, calved in 1907. [10 entries, 3 absent.]

- 1447 I. (£10, & R. N. for Special.¹)—LORD ROTHSCCHILD, Tring Park, Herts, for *Combination Jack*, whole colour, born April 25, bred by E. J. Pison, jun., St. Lawrence, Jersey; s. *Combination* 8845, d. *Oaklands Bess* (9833).
 1445 II. (£6.)—JAMES JOICEY, Poulton Priory, Fairford, for *Electric Chief*, broken colour, born April 5; s. *Chief Justice* 7138, d. *Electric Flash* (vol. 15, p. 272) by *Flying Fox* 2729.
 1442 III. (£4.)—LAURENCE CURRIE, Minley Manor, Farnborough, for *Ladylike's Lad*, whole colour, born Feb. 19, bred by J. Manger, Trinity, Jersey; s. *Stockwell* (3550), d. *Ladylike* (10827).
 1441 R. N. & H. C.—EARL CADOGAN, K.G., Culford Hall, Bury St. Edmunds, for *Ray of Hope*.

Class 171.—Jersey Cows (in-milk), calved in or before 1904.

[27 entries, 9 absent.]

- 1467 I. (£10.)—A. MILLER-HALLETT, Goddington, Chelsfield, for *Lady Viola* (vol. 17, p. 336), whole colour, born April 28, 1893, calved May 16, 1903, bred by J. W. Boulton, St. Ouens, Jersey; s. *Nobleman* 6659, d. *Bagatelle 2nd* (6564) P.S.H.C. by *Golden Lad* 3324.
 1469 II. (£6.)—THE EARL OF ROSEBURY, K.G., Mentmore, Leighton Buzzard, for *Lady Rhymor* (vol. 17, p. 333), whole colour, born in May, 1902, calved April 9, 1908, bred by J. Godenux, Trinity, Jersey; s. *Rbymer* 7007.
 1468 III. (£4.)—A. MILLER-HALLETT, for *Vanilla 2nd* (vol. 18, p. 430), whole colour, born April 15, 1900, calved May 10, 1908, bred by J. G. Bosdet, St. Ouens, Jersey; s. *Hobby* 7865, d. *Vanilla* (8008) P.S.H.C. by *Visitor* 5763.
 1470 IV. (£3.)—LORD ROTHSCCHILD, Tring Park, Herts, for *Ardath* (10359) P.S.H.C., broken colour, born April 10, 1902, calved April 13, 1908, bred by Mrs. J. H. Becquet, St. Peters, Jersey; s. *Aboukers Boy* 7406, d. *Feona* (3182) P.S.C. by *Fred Archer* 3292.
 1475 R. N. & H. C.—J. H. SMITH-BARRY, Stowell Park, Pewsey, for *Post Obit*.

Class 172.—Jersey Heifers (in-milk), calved in 1905.

[13 entries, 5 absent.]

- 1485 I. (£10.)—LORD ROTHSCCHILD, Tring Park, Herts, for *Kenta* (12366) P.S.H.C., whole colour, born March 6, calved April 30, 1908, bred by J. Grosvalet, St. Clement's, Jersey; s. *General Fox* 2nd 8889, d. *Pallas* 2nd (9694).
 1488 II. (£6.)—LADY SMYTH, Ashton Court, Bristol, for *Lustre* (vol. 17, p. 112), whole colour, born March 27, calved May 14, 1908, bred by Lord Rothschild, Tring Park, Herts; s. *Barrister* 7719, d. *Hillside Lass* by *Butter Test* 6807.
 1484 III. (£4.)—A. MILLER-HALLETT, Goddington, Chelsfield, for *Goddington Foxglove*, whole colour, born April 21, calved April 24, 1908; s. *Flying Foam* 7204, d. *Meadow Girl* (vol. 12, p. 316) by *Prim* (2783).
 1490 IV. (£3.)—R. BRUCE WARD, Westwood, Droitwich, for *Molly Bawn* 6th, whole colour, born March 14, calved June 10, 1908, bred by E. G. Starck, Trinity, Jersey; s. *Molly's Astor* 8626, d. *Molly Bawn* 2nd (9720) by *Eminent* 2nd 6546.
 1486 R. N. & H. C.—LORD ROTHSCCHILD, for *Sultane* 24th.

Class 173.—Jersey Heifers (in-milk), calved in 1906.

[18 entries, 10 absent.]

- 1505 I. (£10.)—LORD ROTHSCCHILD, Tring Park, Herts, for *Lady Day*, whole colour, born Feb. 19, calved April 17, 1908, bred by J. B. Badier, St. Martin's, Jersey; s. *Majesty* 3523, d. *Lady Whiteley* (8990).

¹ Special Prize of £10 10s. given by the Royal Jersey Agricultural Society for the best Bull in Classes 169 and 170, provided its dam has won a Prize or Certificate of Merit in any Butter Test Competition recognised by the English Jersey Cattle Society.

Award of Live Stock Prizes at Newcastle, 1908. lxxxix

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 1501 II. (£6.)—MRS. C. MCINTOSH, Havering Park, Romford, for **Havering Carnatie** 11th. fawn, born April 17, calved April 26, 1908; s. Jolly Jim 8564, d. Havering Carnatie 8th (vol. 17, p. 313) *by* Halburton Prince 7250.
- 1494 III. (£4.)—LADY DE ROTHSCHILD, Aston Clinton, Tring, for **Spring Girl**, whole colour, born Jan. 31, calved April 15, 1908, bred by Mrs. Ruelland, St. Mary's, Jersey; s. Fountain (3578) P.S.C., d. Spring (9672) *by* Advancer 6758.
- 1500 IV. (£3.)—JAMES JOICEY, Poulton Priory, Fairford, for **Glorie de Dijon**, broken colour, born April 2, calved April 27, 1908; s. Chieftain 8840, d. Gloriation (vol. 16, p. 294) *by* Buttermann 7438.
- 1495 B. N. & H. C.—T. R. B. ELLIOTT, Clifton Park, Kelso, for **Orange Lass**.

Class 174.—*Jersey Heifers, calved in 1907.* [16 entries, 3 absent.]

- 1515 I. (£10.)—JAMES JOICEY, Poulton Priory, Fairford, for **Glorina**, whole colour, born July 16; s. Netina's Dairy Lad 8637, d. Gloria (vol. 17, p. 303) *by* Chief Justice 7138.
- 1516 II. (£6.)—MRS. C. MCINTOSH, Havering Park, Romford, for **Silver Crown** 10th, broken colour, born Jan. 27, bred by J. S. Arthur, St. Mary's, Jersey; s. Astor 3042, d. Silver Crown 7th 9601.
- 1509 III. (£4.)—LAURENCE CURRIE, Minley Manor, Farnborough, for **May Queen**, whole colour, born July 17; s. Twylish King 9100, d. Beatie (vol. 18, p. 248) *by* Rhodes 7986.
- 1517 IV. (£3.)—A. MILLER-HALLETT, Goddington, Chelsfield, for **Bayleaf** 38th, whole colour, born July 26, bred by D. J. Cabot, St. Saviour's, Jersey; s. Noble of Oaklands (3909), d. Bayleaf 27th (11812) *by* Morny Cannon 3058.
- 1520 B. N. & H. C.—LORD ROTHSCHILD, Tring Park, Herts, for **Soumise Lily**.

Class 175.—*Jersey Cows or Heifers (in-milk), bred by Exhibitor, and sired in Great Britain or Ireland. Open to Animals entered in Classes 171, 172, and 173 only.*¹ [13 entries, 2 absent.]

- 1475 I. (£10.)—J. H. SMITH-BARRY, Stowell Park, Pewsey, for **Post Obit** (vol. 18, p. 388), fawn, born March 23, 1904, calved April 20, 1908; s. Gay Boy 7510, d. Post Stamp 6th *by* Distinctus Crown 4818.
- 1501 II. (£6.)—MRS. C. MCINTOSH, for **Havering Carnatie** 11th. (See Class 173.)
- 1484 III. (£4.)—A. MILLER-HALLETT, for **Goddington Foxglove**. (See Class 172.)
- 1486 B. N. & H. C.—LORD ROTHSCHILD, Tring Park, Herts, for **Sultane** 24th.

Class 176.—*Milk Yield Prizes, open to Jersey Cows and Heifers entered in Classes 171, 172 and 173 only.* [17 entries, none absent.]

- 1474 I. (£10.)—J. H. SMITH-BARRY, Stowell Park, Pewsey, for **Marigold** (vol. 15, p. 338), brown, born June 7, 1901, calved Jan. 15, 1908; s. Sportive 7037, d. Maquitá 5th *by* Doctor Jim 5861.
- 1477 II. (£6.)—THE MARQUIS OF WINCHESTER, Amport St. Mary's, Andover, for **Wench** (vol. 14, p. 373), light fawn, born May 6, 1899, calved Jan. 17, 1908, bred by P. Le Couillard, Granville, Jersey; s. Rook 7011, d. Ladylike (6782) P.S.C. *by* Fauvette's Boy 4838.
- 1465 III. (£4.)—MRS. C. MCINTOSH, Havering Park, Romford, for **Frolicsome** 5th (vol. 16, p. 290), fawn, born Jan. 1, 1904, calved April 19, 1908, bred by Peter Audrian, St. John's, Jersey; s. Sam Loates 7660, d. Frolicsome 2nd (5808) P.S.C. *by* Golden Pink 4130.
- 1472 B. N. & H. C.—LORD ROTHSCHILD, Tring Park, Herts, for **My Brunette**.

Guernseys.²

N.B.—Unless otherwise stated, the numbers refer to the English Guernsey Herd Book.

Class 177.—*Guernsey Bulls, calved in 1903, 1904, 1905, or 1906.*
[4 entries, none absent.]

- 1526 I. (£10.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for **Merton Signet** 1691, red and white, born May 20, 1904; s. Reuben 2nd 1416, d. Signalmina 4647 *by* Signalman 585.
- 1528 II. (£6.) LADY TICHBORNE, Tichborne Park, Alresford, for **Moss Raider** 1871, fawn and white, born Aug. 15, 1906, bred by Sir H. D. Tichborne, Bt., Tichborne Park, Alresford; s. Itchen Raider 1679, d. Itchen Moss Rose 6186 *by* Itchen May Day.
- 1525 B. N. & H. C.—CHARLES L. BELL, Woolsington Hall, Newcastle-on-Tyne, for **Merton Secret**.

Class 178.—*Guernsey Bulls, calved in 1907.* [3 entries.]

- 1529 I. (£10.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for **Merton Village Boy** 1971, red and white, born May 13; s. Merton Signet 1691, d. Merton copy of the Village 7002 *by* William Rufus 1377 P.S., R.G.A.S.

¹ Prizes given by the English Jersey Cattle Society.

² £10 towards these Prizes were given by the English Guernsey Cattle Society.

xc *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1531 II. (£6.)—LADY TICHBORNE, Tichborne Park, Alresford, for *Itchen Golden Secret* 1946, fawn and white, born May 16, bred by Sir H. D. Tichborne, Bt., Tichborne Park, Alresford; s. *Golden Secret* 1569, d. *Itchen Pearl* 2nd 6187 by Rival 1343.

1530 R. N. & H. C.—H. FITZWALTER PLUMPTRE, for *Itchen Golden Noble*.

Class 179.—*Guernsey Cows or Heifers (in-milk), calved in or before 1905.*
[6 entries, none absent.]

1536 I. (£10.)—LADY TICHBORNE, Tichborne Park, Alresford, for *Itchen Dairymaid* 3268 F.S., R.G.A.S., red and white, born Aug. 1, 1900, calved June 8, 1908, bred by Mr. Tourgis, Alderney.

1533 II. (£6.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for *Felois* 4436, red, born July 18, 1897, calved June 3, 1908, bred by N. Guilbert, Castel, Guernsey; s. *Safeguard* of the Capelles 318 G.H.B., d. *Myrtle* 3857, G.H.B.

1537 R. N. & H. C.—LADY TICHBORNE, for *Itchen Pearl* 2nd.

Class 180.—*Guernsey Heifers, calved in 1906.* [3 entries.]

1540 I. (£10.)—LADY TICHBORNE, Tichborne Park, Alresford, for *Itchen Royal Rose* 2nd 6925, fawn and white, born Jan. 30, bred by Sir H. D. Tichborne, Bt., Tichborne Park, Alresford; s. *Golden Secret* 1569, d. *Royal Rose* 4279, by *Active Lad* 653.

1539 II. (£6.)—LADY TICHBORNE, for *Itchen Pearl* 5th 6923, fawn and white, born May 10, bred by Sir H. D. Tichborne, Bt., Tichborne Park, Alresford; s. *Itchen Raider* 1679, d. *Itchen Pearl* 2nd 6187 by Rival 1343.

1538 R. N. & H. C.—FRANK HARGREAVES, for *Alexandrina* 10th.

Class 181.—*Guernsey Heifers, calved in 1907.* [5 entries, 1 absent.]

1541 I. (£10.)—FRANK HARGREAVES, Merton Grange, Gamlingay, for *Floss* 3rd of the *Quartiers* 7712, P.S., R.G.A.S., red and white, born June 2, bred by the Hon. A. Baillie Hamilton, Les Quartiers, St. Sampson's, Guernsey; s. *Deputy of the Quartiers* 2nd 1818, P.S., R.G.A.S., d. *Floss* of the *Quartiers* 2233, F.S., R.G.A.S.

1545 II. (£6.)—LADY TICHBORNE, Tichborne Park, Alresford, for *Itchen Pearl* 6th 7314, fawn and white, born Jan. 30, bred by Sir H. D. Tichborne, Bt., Tichborne Park, Alresford; s. *Golden Secret* 1569, d. *Itchen Pearl* 5156 by *May Day* 1132.

1543 R. N. & H. C.—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for *Adela* 3rd.

Class 182.—*Milk Yield Prizes, open to Guernsey Cows and Heifers entered in Class 179 only.* [5 entries, none absent.]

1534 I. (£10.)—H. FITZWALTER PLUMPTRE, Goodnestone, Dover, for *Melanie* of Goodnestone 2nd 4900, fawn and white, born Sept. 27, 1900, calved Feb. 17, 1908; s. *Randolph* 1152, d. *Melanie* of Goodnestone 4187 by *Signet* 2nd 645.

1533 II. (£6.)—FRANK HARGREAVES, for *Felois*. (See Class 179.)

1536 III. (£4.)—LADY TICHBORNE, for *Itchen Dairymaid*. (See Class 179.)

1537 R. N. & H. C.—LADY TICHBORNE, for *Itchen Pearl* 2nd.

Longhorns.¹

Class 183.—*Longhorn Bulls, calved in 1903, 1904, 1905, 1906, or 1907.*

[4 entries.]

1546 I. (£10.)—LORD GERARD, Eastwell Park, Ashford, for *Melcombe Emperor* 416, dark brindle and white, born April 20, 1903, bred by Major H. Jasper Selwyn, Rhy Manor, Dulverton; s. *Wootton Emperor* 399, d. *Melcombe Lovely* by *Melcombe Conqueror* 324.

1547 II. (£6.)—W. L. RILEY, Foleshill Hall, Coventry, for *Fradley Conqueror* 461, brindle and white, born Sept. 15, 1904, bred by W. S. Shaw, jun., Fradley Old Hall Lichfield; s. *Wychnor Secundus* 401, d. *Brindled Beauty* by *Excelsior* 310.

1549 III. (£4.)—C. TOLLEMACHE SCOTT, Bosworth Park, Market Bosworth, for *Bosworth Baron* 497, brindle and white, born Oct. 14, 1905, bred by H. Houghton, Narley House, Osbaston, Leicestershire; s. *Narley's Pretender* 420, d. *Pretty Face* 2nd by *Earl of Upton* 10th 307.

1548 R. N. & H. C.—W. L. RILEY, for *Susan's Son*.

Class 184.—*Longhorn Cows or Heifers (in-milk), calved in or before 1905.*
[5 entries, none absent.]

1550 I. (£10.)—LORD GERARD, Eastwell Park, Ashford, for *Bentley Dido* (vol. 5, p. 16), brindle and white, born Jan. 11, 1904, calved May 12, 1908, bred by Mrs. Cheape, Bentley Manor, Redditch; s. *Bentley Wonder* 373, d. *Dido* by *Earl of Upton* 11th 308.

1552 II. (£6.)—W. H. SALE, Arden Hall, Atherstone, for *Countess of Dean* (vol. 4, p. 15), grizzled and white, born May 31, 1902, bred by J. R. Watson, South Mosses, Lamplugh; s. *Young Kenilworth* 439, d. *White Back* by *Fradley Prior* 312.

¹ £8 towards these Prizes were given by the Longhorn Cattle Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

1551 III. (£4.)—W. H. SALE, for **Arden Pansy 4th** (vol. 5, p. 14), brindle and white, born Feb. 24, 1904, calved May 10, 1908; s. Young Bow Horn 438, d. Taverner's Dark Pansy by Earl of Upton 10th 307.

1553 R. N. & H. C.—C. TOLLEMACHE SCOTT, for **Perry 3rd**.

Class 185.—*Milk Yield Prizes, open to Longhorn Cows and Heifers entered in Class 184 only.* [4 entries, none absent.]

1554 I. (£10.)—C. TOLLEMACHE SCOTT, Bosworth Park, Market Bosworth, for **Taverner's Dark Pansy** (vol. 2, p. 38), dark brindle, born April 19, 1896, calved May 3, 1908, bred by T. Taverner, Upton, by Nuneaton; s. Earl of Upton 10th 307, d. Upton Brindy 2nd by Upton Champion 366.

Kerries.

N.B.—*In the Kerry Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Irish Kerry Herd Book. A number without brackets indicates that the animal is registered in the English Kerry Herd Book.*

Class 186.—*Kerry Bulls, calved in 1903, 1904, 1905, or 1906.*

[8 entries, 1 absent.]

1562 I. (£10, & Champion.¹)—J. L. TILLOTSON, Heathfield, Bebington, for **La Mancha Diver**, born March 27, 1905, bred by Mrs. Madden, Nutley, Booterstown; s. Gort Sheen 475, d. Daisy Colleen.

1555 II. (£6.)—LADY GREENALL, Walton Hall, Warrington, for **Walton Rover 176**, born April 17, 1906; s. Waterville Rover 581, d. Walton Bouquet 880, F.S.

1561 III. (£4.)—J. L. TILLOTSON, for **Kilmorna Lord 3rd**, born April 16, 1906, bred by G. G. Mahony, Kilmorna, co. Kerry; s. Kilmorna Lord 590, d. Sheen 12th 3258 by Kilmorna Duke 513.

1559 R. N. & H. C.—R. TAIT ROBERTSON, La Mancha, Malahide, for **Ptarmigan**.

Class 187.—*Kerry Cows or Heifers (in-milk), calved in or before 1905.*

[8 entries, none absent.]

1570 I. (£10, & R. N. for Champion.¹)—J. L. TILLOTSON, Heathfield, Bebington, for **Belvedere Nora** (2982), born March 24, 1901, calved May 12, 1908, bred by C. Brindsley Morley, Belvedere House, Mullinagar; s. Finn Mac Cumbail (445), d. Belvedere Beatrice (2218) by Black Prince (351).

1564 II. (£6.)—LADY GREENALL, Walton Hall, Warrington, for **Maple 4th of Carton 492**, born March 8, 1899, calved March 1, 1908, bred by the Duke of Leinster, Carton, Maynooth; s. Abbeyleix Mackineely 346, d. Maple 2nd 2376 by Nuadhat 302.

1563 III. (£4.)—LADY GREENALL, for **Aicme Cold 510**, F.S., born in March, 1896, calved May 19, 1908, breeder unknown.

1567 R. N. & H. C.—G. LL. PALMER, Lackham, Lacock, for **Mollig Dhubh**.

Class 188.—*Kerry Heifers, calved in 1906 or 1907.²*

[7 entries, none absent.]

1572 I. (£10.)—THE DUCHESS OF NEWCASTLE, Clumber, Worksop, for **Hardwick Flora 3rd**, born May 4, 1906; s. La Mancha Gordon 121, F.S., d. Hardwick Flora 483 by Kidmore Floral King 71.

1573 II. (£6.)—THE DUCHESS OF NEWCASTLE, for **Hardwick Ivy 2nd**, born March 27, 1906; s. La Mancha Gordon 121, F.S., d. Ivy 7th of Carton 564 by Abbeyleix Mackineely 346.

1571 III. (£4.)—LADY GREENALL, Walton Hall, Warrington, for **Walton Aicme 2nd 925**, born April 30, 1906; s. Walton Standard Bearer 139, d. Aicme Cold 510, F.S.

1575 R. N. & H. C.—EDMUND ROYDS, for **Caythorpe Blossom 2nd**.

Class 189.—*Milk Yield Prizes, open to Kerry Cows and Heifers entered in Class 187 only.* [8 entries, none absent.]

1564 I. (£10.)—LADY GREENALL, for **Maple 4th of Carton**. (See Class 187.)

1569 II. (£6.)—EDMUND ROYDS, Holycross, Caythorpe, Grantham, for **Caythorpe Daisy 683**, born April 21, 1904, calved March 28, 1908; s. Smiling Tom 154, d. Caythorpe Peggy 733.

1565 III. (£4.)—THE DUCHESS OF NEWCASTLE, Clumber, Worksop, for **Hardwick Pearl 563**, born May 10, 1902, calved May 24, 1908; s. Hardwick Prince 69, d. Hardwick Rose (404) by Aicme Carter 59.

1568 R. N. & H. C.—R. TAIT ROBERTSON, for **Gort Primroso**.

¹ Challenge Cup, value Twenty-five Guineas, given by the English Kerry and Dexter Cattle Society for the best animal in Classes 186-188, the Cup to become the property of an Exhibitor winning it three years in succession.

² Prizes given by the English Kerry and Dexter Cattle Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Dexters.

N.B.—In the Dexter Classes, the number inserted within brackets after the name of an animal indicates the number of such animal in the Irish Dexter Herd Book. A number without brackets indicates that the animal is registered in the English Dexter Herd Book.

Class 190.—Dexter Bulls, calved in 1903, 1904, 1905, or 1906.

[7 entries, 1 absent.]

- 1578 I. (£10.)—H.M. THE KING, Sandringham, for King John, black, born July 7, 1905; s. La Mancha King, d. Waterville Judy.
1582 II. (£6.)—R. TAIT ROBERTSON, La Mancha, Malabide, co. Dublin, for La Mancha Tom Noddy, black, born May 6, 1906; s. Mapnath Nassau (512), d. Gort Queen (2011).
1579 III. (£4.)—THE HON. MRS. GODFREY CHETWYND, Wyndthorpe, Doncaster, for Wyndthorpe Gelonium 339, black, born Sept. 21, 1906, bred by Godfrey J. B. Chetwynd; s. Don Gentian 244, d. Don Garrya 1270.
1584 R. N. & H. C.—THE COUNTESS OF SEFTON, Croxteth, Liverpool, for Altcar Togo.

Class 191.—Dexter Cows (in-milk), calved in or before 1904.

[10 entries, 1 absent.]

- 1585 I. (£10, & Champion.¹)—H.M. THE KING, Sandringham, for Compton Dolly Varden, black, born May 19, 1903, calved Feb. 26, 1908, bred by the Duchess of Devonshire, Compton Place, Eastbourne; s. Buckhurst Emir, d. Astrachan.
1587 II. (£6.)—BALDOMERO DE BERTODANO, Cowbridge House, Malmesbury, for Cowbridge Dainty Dish 1261, black, born March, 1902, calved March 12, 1908, breeder unknown.
1588 III. (£4.)—BALDOMERO DE BERTODANO, for Cowbridge Stella 1265, black, born Oct. 1904, calved April 7, 1908, breeder unknown.

- 1591 R. N. & H. C.—R. TAIT ROBERTSON, La Mancha, Malabide, for Gort Sunbeam.

Class 192.—Dexter Heifers (in-milk), calved in 1905.² [3 entries, 1 absent.]

- 1595 I. (£10, & R. N. for Champion.²)—H.M. THE KING, Sandringham, for La Mancha Marjorie, red, born 1905, calved April 27, 1908, breeder unknown.
1597 II. (£6.)—R. TAIT ROBERTSON, La Mancha, Malabide, co. Dublin, for Gort Ethel (2254), black, born Feb. 6, 1905, calved April 12, 1908, bred by D. M. Rattray, Gortnaskehy, Ballybunion; s. Gort Rover (499), d. Gort Biddy (1987).

Class 193.—Dexter Heifers, calved in 1906 or 1907. [8 entries, 1 absent.]

- 1602 I. (£10.)—R. TAIT ROBERTSON, La Mancha, Malabide, co. Dublin, for Mapnath Modesty, black, born Aug. 28, bred by George Courtney, Kenmare, co. Kerry; s. Kenmare George (471), d. Kenmare Marchioness (2123).
1605 II. (£6.)—THE COUNTESS OF SEFTON, Croxteth Hall, Liverpool, for Altcar Midget 1574 F.S., black, born 1907, breeder unknown.
1600 III. (£4.)—BALDOMERO DE BERTODANO, Cowbridge House, Malmesbury, for Cowbridge Little Eva, black, born March 15, bred by G. Courtney, Kenmare, co. Kerry; s. Dreen (408), d. Kenmare Novice (18-6).
1604 R. N. & H. C.—THE COUNTESS OF SEFTON, for Altcar Damson.

Class 194.—Milk Yield Prizes, open to Dexter Cows and Heifers entered in Classes 191 and 192 only. [7 entries, none absent.]

- 1589 I. (£10.)—BALDOMERO DE BERTODANO, Cowbridge House, Malmesbury, for La Mancha Sweet Nell 970, red, born 1901, calved March 29, 1908, breeder unknown.
1586 II. (£6.)—H.M. THE KING, Sandringham, for Waterville Judy, black, born June, 1902, calved May 2, 1908, breeder unknown.
1592 III. (£4.)—R. TAIT ROBERTSON, La Mancha, Malabide, for Summerfield Meg (2122), red, born 1903, calved May 8, 1908, breeder unknown.
1591 R. N. & H. C.—R. TAIT ROBERTSON, for Gort Sunbeam.

Special Milk Yield Prizes.

Class 195.—Cows (in-milk), of any age, breed, or cross.³ [27 entries, 2 absent.]

- 1008 I. (£20.)—LORD ROTHSCHILD, for Darlington Cranford 5th. (See Class 103.)
1609 II. (£10.)—JOHN EVENS, Burton, Lincoln, for Burton Milker (Shorthorn), red, born about 1902, calved March 5, 1908, breeder unknown.
1247 III. (£5.)—LORD ROTHSCHILD, for Clarissa. (See Class 145.)
1420 R. N. & H. C.—W. NISBET, for Dalfibble Daisy Bell. (See Class 168.)

¹ Challenge Cup, value Twenty-five Guineas, given by the English Kerry and Dexter Cattle Society for the best Dexter Animal in Classes 190-193, the Cup to become the property of an Exhibitor winning it three years in succession.

² Prizes given by the English Kerry and Dexter Cattle Society.

³ Prizes given by the English Jersey Cattle Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Butter Tests. [28 entries, none absent.]

Class 196A.—*Cows (in-milk), of any age, breed, or cross, exceeding 900 lb. live weight.*¹

- 1008 I. (£15, & S. P. £20.²)—LORD ROTHSCHILD, for *Darlington Cranford* 5th. (See Class 103.)
1609 II. (£10, & S. P. £10.²)—JOHN EVENS, for *Burton Milker*. (See Class 195.)
1477 III. (£5, G. M.,³ & S. P. £5.²)—THE MARQUIS OF WINCHESTER, for *Wench*. (See Class 178.)
1474 R. N. & H. C., S. M.,³ & R. N. for S. P.²—J. H. SMITH-BARRY, for *Marigold*. (See Class 176.)

Class 196B.—*Cows (in-milk), of any age, breed, or cross, not exceeding 900 lb. live weight.*¹

- 1456 I. (£15, & B. M.³)—JERSEY DE KNOOP, Calvey Hall, Tarporey, for *China Belle* 2nd (8814), P.S.H.C., grey fawn, born June 4, 1899, calved April 1, 1908, bred by P. Le Cornu, St. Lawrence, Jersey; s. *Intruder* (8235), d. *China Belle* (8505), F.S.C.
1458 II. (£10.)—JERSEY DE KNOOP, for *Oaklands Beauty* (8659), P.S.C., fawn, born March 10, 1899, calved March 31, 1908, bred by E. Bisson, St. Lawrence, Jersey; s. *Badier Dandy* (2612), d. *Octavia* (7610).
1475 III. (£5.)—J. H. SMITH-BARRY, for *Post Obit*. (See Class 175.)
1472 R. N. & H. C., & Certificate.⁴—LORD ROTHSCHILD, for *My Brunette*.

SHEEP.

Oxford Downs.⁵

Class 197.—*Oxford Down Shearling Rams.* [16 entries, 2 absent.]

- 1621 I. (£10.)—JAMES HORLICK, Cowley Manor, Cheltenham.
1618 II. (£5.)—J. T. HOBBS, Maisey Hampton, Fairford.
1627 III. (£3.)—H. W. STILGOE, The Grounds, Adderbury, Banbury.
1626 R. N. & H. C.—H. W. STILGOE.

Class 198.—*Pens of Three Oxford Down Ram Lambs.* [12 entries, 3 absent.]

- 1631 I. (£10.)—J. T. HOBBS, Maisey Hampton, Fairford.
1640 II. (£5.)—H. W. STILGOE, The Grounds, Adderbury, Banbury.
1632 III. (£3.)—R. W. HOBBS & SONS, Kelmscott, Lechlade.
1639 R. N. & H. C.—W. J. P. READING, Rectory Farm, Langford, Lechlade.

Class 199.—*Pens of Three Oxford Down Shearling Ewes, bred in same Flock.* [8 entries, 2 absent.]

- 1641 I. (£10.)—ALBERT BRASSEY, Heythrop Park, Chipping Norton.
1644 II. (£5.)—J. T. HOBBS, Maisey Hampton, Fairford.
1645 III. (£3.)—JAMES HORLICK, Cowley Manor, Cheltenham.
1642 R. N. & H. C.—GEORGE HANKINS, Glebe Farm, Acchurch, Oundle.

Class 200.—*Pens of Three Oxford Down Ewe Lambs.* [9 entries, 1 absent.]

- 1651 I. (£10.)—J. T. HOBBS, Maisey Hampton, Fairford.
1649 II. (£5.)—GEORGE ADAMS & SON, Wadley House, Faringdon.
1652 III. (£3.)—R. W. HOBBS & SONS, Kelmscott, Lechlade.
1656 R. N. & H. C.—W. J. P. READING, Rectory Farm, Langford, Lechlade.

Shropshires.

Class 201.—*Shropshire Two-Shear Rams.* [10 entries, 2 absent.]

- 1667 I. (£10.⁶)—ALFRED TANNER, Shrawardine, Shrewsbury, for *Shrawardine Dream*.
1665 II. (£5.⁶)—T. S. MINTON, Montford, Shrewsbury.
1658 III. (£3.)—A. S. BERRY, Shenstone Hall, Lichfield.
1661 R. N. & H. C.—F. G. CLARKE, Freeford Hall, Lichfield, for *Clirona Gladiator*.

¹ Prizes given by the English Jersey Cattle Society.

² Special Prizes of £20, £10, and £5, given by the English Jersey Cattle Society for the three Cows in Class 196A and 196B obtaining the greatest number of points in the competition.

³ Gold, Silver, and Bronze Medals given by the English Jersey Cattle Society for the three Jersey Animals entered or eligible for entry in the English Jersey Herd Book, obtaining the greatest number of points in the Butter Tests.

⁴ Certificate of Merit given by the English Jersey Cattle Society for Jersey Cows entered or eligible for entry in the English Jersey Herd Book, not being prize winners.

⁵ £10 towards these Prizes were given by the Oxford Down Sheep Breeders' Association.

⁶ Prizes given by the Shropshire Sheep Breeders' Association.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor"]

Class 202.—Shropshire Shearling Rams. [30 entries, 3 absent.]

- 1685 I. (£10.)—MRS. W. F. INGE, Thorpe, Tamworth.
 1678 II. (£5.)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.
 1687 III. (£3.)—T. S. MINTON, Montford, Shrewsbury.
 1696 IV. (£2.), & 1697 V. (£2.)—MATTHEW WILLIAMS, Whiston Hall, Albrighton.
 1676 R. N. & H. C.—R. F. CAVENDISH, Holker Hall, Cark-in-Cartmel, Lancs.

Class 203.—Pens of Five Shropshire Shearling Rams, of the same Flock.
 [15 entries, none absent.]

- 1703 I. (£15.¹)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.
 1712 II. (£10.¹)—MATTHEW WILLIAMS, Whiston Hall, Albrighton, Wolverhampton.
 1706 III. (£5.¹)—T. S. MINTON, Montford, Shrewsbury.
 1705 IV. (£2.)—MRS. W. F. INGE, Thorpe, Tamworth.
 1700 V. (£2.)—FRANK BIBBY, Hardwicke Grange, Shrewsbury.
 1709 R. N. & H. C.—EDWARD NOCK, Harrington Hall, Shifnal.

Class 204.—Special Selling (Auction) Shearling Rams.¹
 [23 entries, 2 absent.]

- 1679 I. (£10), 1703 II. (£5), III. (£3), & R. N. & H. C.—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.
 1705 IV. (£2.)—MRS. W. F. INGE, Thorpe, Tamworth.

Class 205.—Pens of Three Shropshire Ram Lambs. [8 entries, 4 absent.]

- 1721 I. (£10.)—EDWARD NOCK, Harrington Hall, Shifnal, Salop.
 1717 II. (£5.)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.
 1718 III. (£3.)—SIR WALTER CORBET, BT., Acton Reynold, Shrewsbury.
 1716 R. N. & H. C.—F. G. CLARKE, Freeford Hall, Lichfield.

Class 206.—Pens of Three Shropshire Shearling Ewes, bred in same Flock.
 [12 entries, 1 absent.]

- 1730 I. (£10), & 1731 III. (£3.)—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.
 1724 II. (£5), & 1725 R. N. & H. C.—FRANK BIBBY, Hardwicke Grange, Shrewsbury.

Class 207.—Pens of Three Shropshire Ewe Lambs.
 [7 entries, none absent.]

- 1742 I. (£10.)—EDWARD NOCK, Harrington Hall, Shifnal.
 1741 II. (£5.)—T. S. MINTON, Montford, Shrewsbury.
 1740 III. (£3.)—MRS. W. F. INGE, Thorpe, Tamworth.
 1738 R. N. & H. C.—SIR RICHARD COOPER, BT., Shenstone Court, Lichfield.

Southdowns.

Class 208.—Southdown Two-Shear Rams.² [10 entries, 2 absent.]

- 1745 I. (£10, & Champion³), & 1746 III. (£3.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
 1750 II. (£5.)—SIR JEREMIAH COLMAN, BT., Gatton Park, Surrey.
 1744 R. N. & H. C.—H.M. THE KING, Sandringham.

Class 209.—Southdown Shearling Rams. [18 entries, 4 absent.]

- 1753 I. (£10, & R. N. for Champion.³)—H.M. THE KING, Sandringham.
 1763 II. (£5), & 1764 R. N. & H. C.—THE EXORS. OF THE LATE COL. H. MCCALMONT, Cheveley Park, Newmarket.
 1755 III. (£3.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
 1758 IV. (£2.)—EARL CADOGAN, K.G., Culford Hall, Bury St. Edmunds.

Class 210.—Pens of Three Southdown Shearling Rams, bred in same Flock.¹
 [8 entries, 1 absent.]

- 1772 I. (£10), & 1773 III. (£3.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
 1777 II. (£5.)—THE EXORS. OF THE LATE COL. H. MCCALMONT, Cheveley Park, Newmarket.
 1771 R. N. & H. C.—H.M. THE KING, Sandringham.

¹ Prizes given by the Shropshire Sheep Breeders' Association.

² Prizes given by the Southdown Sheep Society.

³ Champion Gold Medal, value £10 10s., given by the Southdown Sheep Society for the best Ram in Classes 208 and 209.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 211.—*Pens of Three Southdown Ram Lambs.* [9 entries, 4 absent.]

- 1779 I. (£10.)—H.M. THE KING, Sandringham.
1780 II. (£5.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
1787 III. (£3.)—SIR JULIUS WERNHER, BT., Luton Hoo, Luton.
1782 R. N. & H. C. W. M. CAZALET, Fairlawn, Tonbridge.

Class 212.—*Pens of Three Southdown Shearling Ewes, bred in same Flock.* [9 entries, 2 absent.]

- 1791 I. (£10. & Champion.¹)—SIR JEREMIAH COLMAN, BT., Gatton Park, Surrey.
1795 II. (£5. & R. N. for Champion¹), & 1796 III. (£3.)—SIR JULIUS WERNHER, BT., Luton Hoo, Luton.
1793 R. N. & H. C.—THE DUKE OF NORTHUMBERLAND, K.G., Albury Park, Guildford.

Class 213.—*Pens of Three Southdown Ewe Lambs.* [10 entries, 3 absent.]

- 1797 I. (£10.)—H.M. THE KING, Sandringham.
1806 II. (£5.)—SIR JULIUS WERNHER, BT., Luton Hoo, Luton.
1798 III. (£3.)—C. R. W. ADEANE, Babraham Hall, Cambridge.
1801 R. N. & H. C.—SIR JEREMIAH COLMAN, BT., Gatton Park, Surrey.

Hampshire Downs.

Class 214.—*Hampshire Down Two-Shear Rams.*² [6 entries, 1 absent.]

- 1810 I. (£10.)—JAMES FLOWER, Chilmark, Salisbury.
1812 II. (£5.)—H. C. STEPHENS, Cholderton, Salisbury.
1811 III. (£3.)—THE HON. D. PLEYDELL-BOUVERIE, Coleshill House, Highworth, for Coleshill No. 1. 7129.
1807 R. N. & H. C.—CARY COLES, for Stonehenge No. 144.

Class 215.—*Hampshire Down Shearling Rams.* [9 entries, none absent.]

- 1815 I. (£10.)—JAMES FLOWER, Chilmark, Salisbury.
1821 II. (£5.), & 1820 III. (£3.)—H. C. STEPHENS, Cholderton, Salisbury.
1819 R. N. & H. C.—THE HON. D. PLEYDELL-BOUVERIE, for Winterbourne Ranger.

Class 216.—*Pens of Three Hampshire Down Ram Lambs.* [6 entries, none absent.]

- 1827 I. (£10. and Champion.³)—H. C. STEPHENS, Cholderton, Salisbury.
1825 II. (£5. and R. N. for Champion.³)—SIR GEORGE JUDD, Cocum, Barton Stacey.
1823 III. (£3.)—JAMES FLOWER, Chilmark, Salisbury.
1822 R. N. & H. C.—CARY COLES, Manor House, Winterbourne Stoke, Salisbury.

Class 217.—*Pens of Three Hampshire Down Shearling Ewes, bred in same Flock.* [4 entries.]

- 1828 I. (£10.), & 1829 II. (£5.)—JAMES FLOWER, Chilmark, Salisbury.
1830 III. (£3.), & 1831 R. N. & H. C.—SIR ALEXANDER HENDERSON, BT., Buscot Park, Faringdon.

Class 218.—*Pens of Three Hampshire Down Ewe Lambs.* [6 entries, none absent.]

- 1837 I. (£10.)—H. C. STEPHENS, Cholderton, Salisbury.
1832 II. (£5.)—CARY COLES, Manor House, Winterbourne Stoke, Salisbury.
1835 III. (£3.)—SIR GEORGE JUDD, Cocum, Barton Stacey, S.O., Hants.
1833 R. N. & H. C.—JAMES FLOWER, Chilmark, Salisbury.

Suffolks.

Class 219.—*Suffolk Two-Shear Rams.*⁴ [3 entries.]

- 1840 I. (£10.), & 1839 III. (£3.)—H. E. SMITH, The Grange, Walton, Suffolk.
1338 II. (£5.)—S. R. SHERWOOD, Playford, Ipswich, for Cedric 6th 9588.

Class 220.—*Suffolk Shearling Rams.* [5 entries, none absent.]

- 1844 I. (£10.), & 1845 II. (£5.)—H. E. SMITH, The Grange, Walton, Suffolk.
1843 III. (£3.)—S. R. SHERWOOD, Playford, Ipswich.
1842 R. N. & H. C.—SIR ARTHUR G. HAZLERIGG, BT., for Noseley Earl 3rd.

¹ Silver Medal given by the Southdown Sheep Society for the best Pen of Ewes or Ewe Lambs in Classes 212 and 213.

² Prizes given by the Hampshire Down Sheep Breeders' Association.

³ Champion Prize of £10 given by the Hampshire Down Sheep Breeders' Association for the best Pen of Ram Lambs or Ewe Lambs in Classes 216 and 218.

⁴ Prizes given by the Suffolk Sheep Society.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 221.—Suffolk Ram Lambs.¹ [5 entries, none absent.]

- 1849 I. (£10.), & 1850 R. N. & H. C.—H. E. SMITH, The Grange, Walton, Suffolk.
1847 II. (£5.)—D. A. GREEN, Fingringhoe Hall, Colchester.
1848 III. (£3.)—S. R. SHERWOOD, Playford, Ipswich.

Class 222.—Pens of Three Suffolk Ram Lambs. [4 entries.]

- 1854 I. (£10.)—H. E. SMITH, The Grange, Walton, Suffolk.
1852 II. (£5.)—D. A. GREEN, Fingringhoe Hall, Colchester.
1853 III. (£3.)—S. R. SHERWOOD, Playford, Ipswich.
1851 R. N. & H. C.—THOMAS GOODCHILD, Great Yeldham Hall, Castle Hedingham.

Class 223.—Pens of Three Suffolk Shearling Ewes, bred in same Flock. [3 entries.]

- 1857 I. (£10.), & 1856 II. (£5.)—SIR A. G. HAZLERIGG, BT., Noseley Hall, Billesdon, Leicester, for pen, bred by R. Barclay, Higham, Bury St. Edmunds.
1855 III. (£3.)—THOMAS GOODCHILD, Great Yeldham Hall, Castle Hedingham.

Class 224.—Pens of Three Suffolk Ewe Lambs. [4 entries.]

- 1861 I. (£10.)—H. E. SMITH, The Grange, Walton, Suffolk.
1860 II. (£5.)—S. R. SHERWOOD, Playford, Ipswich.
1859 III. (£3.)—D. A. GREEN, Fingringhoe Hall, Colchester.
1853 R. N. & H. C.—THOMAS GOODCHILD, Great Yeldham Hall, Castle Hedingham.

Dorset Horn.

Class 225.—Dorset Horn Shearling Rams, dropped after November 1, 1906. [7 entries, 2 absent.]

- 1862 I. (£10.)—JAMES ATTRILL, Waytes Court, Brighstone, Isle of Wight, for **Court No. 68.**
1864 II. (£5.)—W. R. FLOWER, West Stafford, Dorchester, for **Flower's Nos. 183 & 2054.**
1867 III. (£3.)—SAMUEL KIDNER, Bickley, Milverton, for **Duke of Wellington.**
1868 R. N. & H. C.—F. J. MERSON, Farrington, North Petherton, Bridgwater.

Class 226.—Pens of Three Dorset Horn Ram Lambs, dropped after November 1, 1907. [4 entries.]

- 1871 I. (£10.)—E. A. HAMBRO, Delcombe Farm, Milton Abbey, Blandford.
1870 II. (£5.)—W. R. FLOWER, West Stafford, Dorchester, for **Flower's Nos. 184, 185 & 186.**
1869 III. (£3.)—JAMES ATTRILL, Waytes Court, Brighstone, Isle of Wight.
1872 R. N. & H. C.—F. J. MERSON, Farrington, North Petherton, Bridgwater.

Class 227.—Pens of Three Dorset Horn Shearling Ewes, bred in same Flock, dropped after November 1, 1906. [5 entries, 1 absent.]

- 1873 I. (£10.) & 1874 R. N. & H. C.—W. R. FLOWER, West Stafford, Dorchester.
1875 II. (£5.)—E. A. HAMBRO, Delcombe Farm, Milton Abbey, Blandford.
1877 III. (£3.)—F. J. MERSON, Farrington, North Petherton, Bridgwater.

Class 228.—Pens of Three Dorset Horn Ewe Lambs, dropped after November 1, 1907.² [5 entries, 2 absent.]

- 1879 I. (£10.)—W. R. FLOWER, West Stafford, Dorchester.
1880 II. (£5.)—E. A. HAMBRO, Delcombe Farm, Milton Abbey, Blandford.
1882 III. (£3.)—F. J. MERSON, Farrington, North Petherton, Bridgwater.

Ryeland.

Class 229.—Ryeland Rams, Two-Shear and upwards.³ [4 entries, none absent.]

- 1884 I. (£10.)—F. E. GOUGH, The Moor, Bodenham, Leominster, for ram, born March 12, 1906.
1883 II. (£5.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard, for **Twin Star**, born March, 1904.
1885 III. (£3.)—H. W. TAYLOR, Showle Court, Ledbury, for ram, born 1905, bred by D. F. Thomas, Wainmynick, Brecon.

Class 230.—Ryeland Shearling Rams. [3 entries.]

- 1889 I. (£10.)—F. E. GOUGH, The Moor, Bodenham, Leominster.
1887 II. (£5.) & 1888 III. (£3.)—W. T. BARNEBY, Saltmarshe Castle, Bromyard.

¹ Prizes given by the Suffolk Sheep Society.

² Prizes given by the Dorset Horn Sheep Breeders' Association.

³ Prizes given by the Ryeland Flock Book Society.

Award of Live Stock Prizes at Newcastle, 1908. xcvii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 231.—*Pens of Three Ryeland Shearling Ewes, bred in same Flock.*

[3 entries.]

1892 I. (£10.)—F. E. GOUGH, The Moor, Bodenham, Leominster.

1891 II. (£5), & 1890 III. (£3).—W. T. BARNEBY, Saltmarshes Castle, Bromyard.

Kerry Hill.¹

Class 232.—*Kerry Hill Rams, Two-Shear and Upwards.*

[3 entries, 1 absent.]

1894 I. (£10.)—LAWTON MOORE, Brampton Brian, for **Brampton Faultless** 1279, born 1905.

1895 II. (£5.)—LAWTON MOORE, for **Brampton Grateful** 1575, born March, 1906.

Class 233.—*Kerry Hill Shearling Rams.* [3 entries.]

1896 I. (£10.)—JOHN ANWYL, Priest Weston, Chirbury, for **Heyope Champion**, bred by P. James, Upper Hall, Knighton.

1898 II. (£5.)—LAWTON MOORE, Brampton Brian, for **Brampton Handsome**.

1897 III. (£3.)—T. E. KINSEY, Winsbury, Chirbury, for **Winsbury Champion**.

Class 234.—*Pens of Three Kerry Hill Shearling Ewes, bred in same Flock.*

[4 entries, 1 absent.]

1900 I. (£10.)—T. E. KINSEY, Winsbury, Chirbury.

1901 II. (£5.)—LAWTON MOORE, Brampton Brian.

1902 III. (£3.)—J. & R. PHILLIPS, Llwynybrain, Caersws.

Class 235.—*Pens of Three Kerry Hill Ewe Lambs.* [3 entries, 1 absent.]

1904 I. (£10.)—T. E. KINSEY, Winsbury, Chirbury.

1905 II. (£5.)—J. & R. PHILLIPS, Llwynybrain, Caersws.

Lincolns.

Class 236.—*Lincoln Two-Shear Rams.*² [5 entries, 1 absent.]

1907 I. (£10, & R. N. for Champion.³)—TOM CASSWELL, Pointon House, Folkingham, for **Pointon Magnus** 10293.

1909 II. (£5.)—HENRY DUDDING, Riby Grove, Great Grimsby, for ram, bred by S. E. Dean & Sons, Dowsby Hall, Bourne.

1908 III. (£3.)—S. E. DEAN & SONS, Bourne, for **Dowsby Choice Solomon**.

1906 R. N. & H. C.—J. E. CASSWELL, Laughton, Folkingham, for **Laughton Ringer**.

Class 237.—*Lincoln Shearling Rams.* [13 entries, none absent.]

1915 I. (£10, & Champion³), & 1914 III. (£3.)—S. E. DEAN & SONS, Dowsby Hall Bourne.

1920 II. (£5.)—HENRY DUDDING, Riby Grove, Great Grimsby.

1916 R. N. & H. C.—ROBERT DIXON, Barff House, Brandesburton, Hull.

Class 238.—*Pens of Five Lincoln Shearling Rams, bred in same Flock.*²

[9 entries, 1 absent.]

1925 I. (£15.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.

1930 II. (£10.)—CHARLES E. HOWARD, Nocton Rise, Lincoln.

1924 III. (£5.)—TOM CASSWELL, Pointon House, Folkingham.

1928 R. N. & H. C.—HENRY DUDDING, Riby Grove, Great Grimsby.

Class 239.—*Pens of Three Lincoln Ram Lambs.* [5 entries, 1 absent.]

1936 I. (£10), & 1935 II. (£5.)—HENRY DUDDING, Riby Grove, Great Grimsby.

1933 III. (£3.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.

Class 240.—*Pens of Three Lincoln Shearling Ewes, bred in same Flock.*

[8 entries, 2 absent.]

1944 I. (£10), & 1945 II. (£5.)—CHARLES E. HOWARD, Nocton Rise, Lincoln.

1940 III. (£3.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.

1939 R. N. & H. C.—TOM CASSWELL, Pointon House, Folkingham.

Class 241.—*Pens of Three Lincoln Ewe Lambs.* [5 entries, 1 absent.]

1948 I. (£10.)—HENRY DUDDING, Riby Grove, Great Grimsby.

1946 II. (£5.)—S. E. DEAN & SONS, Dowsby Hall, Bourne.

1947 III. (£3.)—ROBERT DIXON, Barff House, Brandesburton, Hull.

¹ £26 towards these prizes were given by the Kerry Hill (Wales) Flock Book Society.

² Prizes given by the Lincoln Long-wool Sheep Breeders' Association.

³ Piece of Plate, value £5, given by the Lincoln Long-wool Sheep Breeders' Association for the best Ram in Classes 236 and 237.

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[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 242.—*Pens of Three Lincoln Yearling Ewes, in wool.*¹

[8 entries, 1 absent.]

- 1956 I. (£10).—CHARLES E. HOWARD, Nocton Rise, Lincoln.
1954 II. (£5).—S. E. DEAN & SONS, Dowsby Hall, Bourne.
1952 III. (£3).—J. E. CASSWELL, Laughton, Folkingham.
1958 R. N. & H. C.—WILLIAM B. SWALLOW, Wootton Lawn, Ulceby.

Leicesters.²

Class 243.—*Leicester Shearling Rams.* [10 entries, none absent.]

- 1966 I. (£10).—J. E. & C. H. SIMPSON, Pilmoor House, Hunmanby.
1963 II. (£5).—E. F. JORDAN, Eastburn, Driffield.
1960 III. (£3, & Special³). & 1961 R. N. & H. C., & R. N. for Special.³—GEORGE HARRISON, Gainford Hall, Darlington.

Class 244.—*Pens of Three Leicester Ram Lambs.* [4 entries.]

- 1970 I. (£10), & 1971 R. N. & H. C.—GEORGE HARRISON, Gainford Hall, Darlington.
1969 II. (£5).—JOHN CRANSWICK, Field House, Hunmanby.
1972 III. (£3).—J. E. & C. H. SIMPSON, Pilmoor House, Hunmanby.

Class 245.—*Pens of Three Leicester Shearling Ewes, of the same Flock.*

[7 entries, none absent.]

- 1976 I. (£10).—E. F. JORDAN, Eastburn, Driffield.
1978 II. (£5), & 1979 R. N. & H. C.—J. E. & C. H. SIMPSON, Pilmoor House, Hunmanby.
1973 III. (£3).—JOHN CRANSWICK, Field House, Hunmanby.
1974 Special,⁴ & 1975 R. N. for Special⁴.—GEORGE HARRISON, Gainford Hall, Darlington.

Class 246.—*Pens of Three Leicester Ewe Lambs.* [3 entries.]

- 1982 I. (£10).—J. E. & C. H. SIMPSON, Pilmoor House, Hunmanby.
1981 II. (£5), & 1980 III. (£3).—GEORGE HARRISON, Gainford Hall, Darlington.

Border Leicesters.⁵

Class 247.—*Border Leicester Rams, Two-Shear and upwards.*

[17 entries, 6 absent.]

- 1983 I. (£15, & R. N. for Champion.⁶)—THE RT. HON. A. J. BALFOUR, M.P., Whittinghame, Prestonkirk, for Leaston Surprise 1636, born in 1904.
1995 II. (£7 10s., & Special.⁷)—WILLIAM ROBSON, Low Hedgeley, Alnwick, for ram, born in March, 1906.
1996 III. (£3).—A. & J. K. SMITH, Leaston, Upper Keith, East Lothian, for Leaston Sir James 1865, born March 19, 1905.
1985 IV. (£2).—THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T., Dalkeith Park, Dalkeith, for ram, born March 6, 1906.
1993 R. N. & H. C.—MESSRS. NICHOLSON, Manor House, Lanchester, for Manor Wonder.

Class 248.—*Border Leicester Shearling Rams.* [36 entries, 4 absent.]

- 2003 I. (£20, & Champion.⁶)—A. CAMERON & SONS, Westside Farm, Brechin.
2035 II. (£12 10s.), 2033 IV. (£2) & 2034 R. N. & H. C.—ROBERT WALLACE, Auchenbrain, Mauchline.
2006 III. (£5, & Special⁸)—THOMAS CLARK, Oldhamstocks Mains, Cockburnspath.
2022 V. (£2).—WILLIAM ROBSON, Low Hedgeley, Alnwick.

¹ Prizes given by the Lincoln Long-wool Sheep Breeders' Association.

² £18 towards these Prizes were given by the Leicester Sheep Breeders' Association.

³ Special Prize of £5, given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ram in Class 243.

⁴ Special Prize of £5, given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best pen of Shearling Ewes in Class 245.

⁵ £30 towards these Prizes were given by the Society of Border Leicester Sheep Breeders, and £22 10s. through the Newcastle Local Committee.

⁶ Perpetual Challenge Cup, value Sixty Guineas, given by the Society of Border Leicester Sheep Breeders, for the best Ram or Ewe in Classes 247-249. A Silver Medal will be awarded to the winner of the Cup on its return to the R.A.S.E.

⁷ Special Prize of £20 given by the Newcastle Farmers' Club for the best Border Leicester Sheep in Classes 247-249, exhibited by a Tenant Farmer in the Counties of Northumberland or Durham.

⁸ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ram in Classes 247 and 248.

Award of Live Stock Prizes at Newcastle, 1908. xcix

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 249.—*Border Leicester Shearling Ewes.* [23 entries, 4 absent.]

- 2040 I. (£20), & 2039 II. (£12 10s.).—A. CAMERON & SONS, Westside Farm, Brechin.
2044 III. (£5.).—JAMES FINDLAY, Newmill of Craigeassie, Forfar.
2038 IV. (£2.).—THE DUKE OF BUCCLEUCH AND QUEENSBERRY, K.G., K.T., Dalkeith Park, Dalkeith.
2056 R. N. & H. C.—J. & J. R. C. SMITH, Galalaw, Kelso.
2052 Special.¹—WILLIAM ROBSON, Low Hedgeley, Alnwick.

Cotswolds.²

Class 250.—*Cotswold Shearling Rams.* [6 entries, none absent.]

- 2061 I. (£10), & 2062 II. (£5.).—W. T. GARNE & SON, Aldsworth, Northleach.
2063 R. N. & H. C.—WILLIAM HOULTON, Broadfield Farm, Northleach.

Class 251.—*Pens of Three Cotswold Ram Lambs.* [5 entries, none absent.]

- 2068 I. (£10), & 2067 II. (£5.).—W. T. GARNE & SON, Aldsworth, Northleach.
2069 R. N. & H. C.—WILLIAM HOULTON, Broadfield Farm, Northleach.

Class 252.—*Pens of Three Cotswold Shearling Ewes, bred in same Flock* [5 entries, 1 absent.]

- 2073 I. (£10), & 2074 II. (£5.).—WILLIAM HOULTON, Broadfield Farm, Northleach.
2072 R. N. & H. C.—W. T. GARNE & SON, Aldsworth, Northleach.

Class 253.—*Pens of Three Cotswold Ewe Lambs.* [5 entries, 1 absent.]

- 2078 I. (£10), & 2077 II. (£5.).—W. T. GARNE & SON, Aldsworth, Northleach.
2079 R. N. & H. C.—WILLIAM HOULTON, Broadfield Farm, Northleach.

Kent or Romney Marsh.³

Class 254.—*Kent or Romney Marsh Two-Shear Rams.*

[12 entries, 1 absent.]

- 2083 I. (£10), & 2084 II. (£5.).—CHARLES FILE, Elham, Canterbury.
2090 III. (£3.).—HENRY RIGDEN, Etchinghill, Lyminge, Kent.
2082 IV. (£2.).—GEORGE FARMER, Leeds Abbey, Maidstone, for Farmer's No. 1 of 1906.
2081 R. N. & H. C.—W. M. CAZALET, for Westbroke No. 48 of 1906.

Class 255.—*Kent or Romney Marsh Shearling Rams.* [22 entries, 5 absent.]

- 2111 I. (£10).—HENRY RIGDEN, Etchinghill, Lyminge, Kent.
2095 II. (£5.).—CHARLES FILE, Elham, Canterbury.
2102 III. (£3.).—FREDERICK NEAME, Macknade, Faversham.
2107 IV. (£2.).—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
2099 R. N. & H. C.—WILLIAM MILLEN, Syndale Valley, Faversham.

Class 256.—*Pens of Three Kent or Romney Marsh Ram Lambs.*

[11 entries, 3 absent.]

- 2121 I. (£10), & 2122 IV. (£2.).—J. B. PALMER, New Shelve Manor, Lenham, Kent.
2119 II. (£5.).—WILLIAM MILLEN, Syndale Valley, Faversham.
2114 III. (£3.).—W. M. CAZALET, Fairlawn, Tonbridge.
2120 R. N. & H. C.—FREDERICK NEAME, Macknade, Faversham.

Class 257.—*Pens of Three Kent or Romney Marsh Shearling Ewes, bred in same Flock.* [11 entries, 2 absent.]

- 2130 I. (£10).—WILLIAM MILLEN, Syndale Valley, Faversham.
2135 II. (£5.).—G. C. SWINDELLS, Monks Horton Park, Hythe, for Horton Nos. 11, 12, and 13.
2132 III. (£3.).—FREDERICK NEAME, Macknade, Faversham.
2134 IV. (£2.).—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
2127 R. N. & H. C.—CHARLES FILE, Elham, Canterbury.

Class 258.—*Pens of Three Kent or Romney Marsh Ewe Lambs.*

[10 entries, 3 absent.]

- 2136 I. (£10).—W. M. CAZALET, Fairlawn, Tonbridge.
2144 II. (£5.).—J. EGERTON QUESTED, The Firs, Cheriton, Kent.
2137 III. (£3.).—SIR HENRY E. DERING, BT., Surrenden-Dering, Pluckley, Ashford.
2145 IV. (£2.).—G. C. SWINDELLS, Monks Horton Park, Hythe.
2143 R. N. & H. C.—J. B. PALMER, New Shelve Manor, Lenham, Kent.

¹ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ewe in Class 249.

² £25 towards these Prizes were given by the Cotswold Sheep Society.

³ £26 towards these Prizes were given by the Kent or Romney Marsh Sheep Breeders' Association.

c Award of Live Stock Prizes at Newcastle, 1908.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Wensleydales.¹

Class 259.—Wensleydale Two-Shear Rams. [4 entries, 1 absent.]

- 2149 I. (£10.)—W. J. WHEATLEY, Melmerby, S.O., for Melmerby 1138.
 2147 II. (£5.)—LORD HENRY BENTINCK, Underley Hall, Kirkby Lonsdale, for **Leading Blue**, bred by the Exors. of the late T. Willis, Manor House, Carperby.
 2146 III. (£3.)—LORD HENRY BENTINCK, for Baron Underley 1094.

Class 260.—Wensleydale Shearling Rams. [10 entries, none absent.]

- 2150 I. (£10.)—LORD HENRY BENTINCK, Underley Hall, Kirkby Lonsdale, for **Ruling Blue**, bred by W. Rhodes, Lundholme, Westhouse, Kirkby Lonsdale.
 2157 II. (£5.)—THE EXORS. OF THE LATE THOMAS WILLIS, Manor House, Carperby, for ram, bred by W. Rhodes, Lundholme, Westhouse, Kirkby Lonsdale.
 2152 III. (£3.)—LORD HENRY BENTINCK, for **Westmorland Blue**, bred by W. Rhodes, Lundholme, Westhouse, Kirkby Lonsdale.
 2156 R. N. & H. C.—JOHN HARGRAVE, Wath, Melmerby.

Class 261.—Pens of Three Wensleydale Ram Lambs. [2 entries.]

- 2160 I. (£10.)—LORD HENRY BENTINCK, Underley Hall, Kirby Lonsdale.
 2161 II. (£5.)—EDWARD HORSEMAN, Broken Brea Farm, Richmond, Yorks.

Class 262.—Pens of Three Wensleydale Shearling Ewes, bred in same Flock.
 [6 entries, none absent.]

- 2167 I. (£10.)—THE EXORS. OF THE LATE THOMAS WILLIS, Manor House, Carperby.
 2162 II. (£5), & 2163 III. (£3.)—LORD HENRY BENTINCK, Underley Hall.
 2164 R. N. & H. C.—EDWARD HORSEMAN, Broken Brea Farm, Richmond, Yorks.

South Devons.²

Class 263.—South Devon Rams, Shearling and upwards. [3 entries.]

- 2169 I. (£10.)—JOHN S. HALLETT, Sherford, Brixton, Plymouth, for **Woodleigh No. 2** of 1906 3066, born Feb., 1906, bred by E. B. Luscombe, Woodleigh, Kingsbridge.
 2170 II. (£5.)—JOHN STOOKE, Sherford, Brixton, Plymouth, for ram, horn Feb., 1906.
 2168 R. N. & H. C.—JOHN S. HALLETT, for Sherford No. 2 of 1906.

Class 264.—Pens of Three South Devon Shearling Ewes, bred in same Flock.
 [4 entries, 1 absent.]

- 2172 I. (£10.)—JOHN S. HALLETT, Sherford, Brixton, Plymouth.
 2174 II. (£5.)—JOHN STOOKE, Sherford, Brixton, Plymouth.

Cheviots.³

Class 265.—Cheviot Rams, Two-Shear and upwards.

[14 entries, none absent.]

- 2185 I. (£15, **Champion**,⁴ & **Special**.⁵)—J. R. C. SMITH, Mowhaugh, Yetholm, Kelso for ram, born April 20, 1906.
 2175 II. (£7 10s., **Cup**,⁶ & R. N. for **Champion**.⁴)—JOHN ELLIOTT, Hindhope, Jedburgh, for **Humble**, born April 20, 1905, bred by John Robson, Newton, Bellingham.
 2182 III. (£3.)—JOHN ROBSON, Millknowe, Duns, for ram, born in 1906.
 2184 R. N. & H. C.—J. R. C. SMITH, for **Blackfoot**.

Class 266.—Cheviot Shearling Rams. [9 entries, 1 absent.]

- 2189 I. (£15, & R. N. for **Special**.⁵), & 2190 II. (£7.)—JOHN ELLIOTT, Hindhope Jedburgh.
 2196 R. N. & H. C.—J. R. C. SMITH, Mowhaugh, Yetholm, Kelso.

¹ £15 towards these Prizes were given by the Wensleydale Blue-faced Sheep Breeders' Association and Flock Book Society and £15 by the Wensleydale Sheep Breeders' Association.

² £10 towards these Prizes were given by the South Devon Flock Book Association.

³ £15 towards these Prizes were given by the Cheviot Sheep Society, and £27 10s. through the Newcastle Local Committee.

⁴ The "Borthwick" Challenge Cup given by the Cheviot Sheep Society for the best Ram or Ewe in Classes 265-268.

⁵ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ram in Classes 265 and 266.

⁶ Silver Cup, value £25, specially given through the Newcastle Local Committee for the best Ram or Ewe in Classes 265-268, bred in the County of Northumberland.

Award of Live Stock Prizes at Newcastle, 1908. ci

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 267.—*Cheviot Ewes, Two-Shear and upwards.* [7 entries, 1 absent.]

- 2203 I. (£15, & Special.¹)—JOHN ROBSON, Millknowe, Duns, for ewe, born 1906.
 2204 II. (£6 10s., & R. N. for Special.¹)—A. & J. K. SMITH, Leaston, Upper Keith, East Lothian, for ewe, born April 3, 1906.
 2201 R. N. & H. C.—JACOB ROBSON, Byrness, Otterburn.

Class 268.—*Cheviot Shearling Ewes.* [7 entries, none absent.]

- 2206 I. (£15), & 2205 R. N. & H. C.—JOHN ELLIOTT, Hindhope, Jedburgh.
 2207 II. (£6 10s., & R. N. for Cup.²)—JACOB ROBSON, Byrness, Otterburn.

Lonks.³

Class 269.—*Lonk Rams, Shearling and upwards.* [5 entries, 2 absent.]

- 2212 I. (£10.)—JONATHAN WALKER, Swan Hotel, Addingham, Leeds, for ram, born April 4, 1906, bred by James Hardisty, Boulton Road, Addingham.
 2213 II. (£5.)—JOHN BLACKBURN, 227, Barkerhouse Road, Nelson, for Lonk Standard, born March 1, 1907, bred by the late Thomas Barker, Haggate Gate House, Briercliffe, Burnley.
 2214 R. N. & H. C.—THE BURY WATERWORKS BOARD, Windy Bank, Lumb, Waterfoot, Lancs., for Copy Nook Wonder.

Class 270.—*Pens of Three Lonk Ram Lambs.* [2 entries.]

- 2218 I. (£10.)—DAVID HAGUE, Copy Nook, Clitheroe, for Copy Nook Wonder 2nd, 3rd, and 4th.
 2217 II. (£5.)—JOHN BLACKBURN, 227, Barkerhouse Road, Nelson, Lancs.

Class 271.—*Pens of Three Lonk Shearling Ewes, bred in same Flock.*

[4 entries, none absent.]

- 2219 I. (£10.)—JOHN BLACKBURN, 227, Barkerhouse Road, Nelson.
 2221 II. (£5.)—DAVID HAGUE, Copy Nook, Clitheroe.
 2222 R. N. & H. C.—EDWARD SMITH, Summerhouse Farm, Cowling, Keighley.

Herdwicks.⁴

Class 272.—*Herdwick Rams, Two Shear and upwards.* [5 entries, 1 absent.]

- 2225 I. (£10.)—THE EARL OF LONSDALE, Whitehaven Castle, for Hardknot, born April, 19 4, bred by S. D. Stanley Dodgson, Tarnbank, Cockermouth.
 2224 II. (£5.)—THE EARL OF LONSDALE, for Ennerdale, born April, 1904, bred by John Birkett, How Hall, Ennerdale.

Class 273.—*Herdwick Shearling Rams.* [4 entries, none absent.]

- 2220 I. (£10.)—JAMES TODD, Rougholme, Waberthwaite, Cumberland, for Joe.
 2229 II. (£5.)—THE EARL OF LONSDALE, Whitehaven Castle, for Lazarus, bred by John Rothery, Wasdale Head Hall, Cumberland.

Class 274.—*Pens of Three Herdwick Shearling Ewes, bred in same Flock.*

[4 entries, none absent.]

- 2233 I. (£10.)—THE EARL OF LONSDALE, Whitehaven Castle, for ewes, bred by S. D. Stanley Dodgson, Tarnbank, Cockermouth.
 2235 II. (£5.)—JAMES TODD, Rougholme, Waberthwaite, Cumberland, for ewes, bred by W. J. Crossley, M.P., Pulwoods, Ambleside.

Welsh Mountain.

Class 275.—*Welsh Mountain Rams, Shearling and upwards.*

[6 entries, 2 absent.]

- 2238 I. (£10.)—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor, for Glanrafon Cymro Goren, born March, 1905, bred by W. Conwy Bell, Brynyffynon, Rhuddlan.
 2237 II. (£5.)—W. CONWY BELL, Brynyffynon, Rhuddlan, Flintshire.
 2239 R. N. & H. C.—THE UNIVERSITY COLLEGE OF NORTH WALES, for Madryn Chief 2nd.

¹ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ewe in Classes 267 and 268.

² Silver Cup, value £25, specially given through the Newcastle Local Committee for the best Ram or Ewe in Classes 265-268, bred in the County of Northumberland.

³ £15 towards these Prizes were given by the Lonk Sheep Breeders' Association.

⁴ £15 towards these Prizes were given by Breeders of Herdwick Sheep.

cii *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 276.—*Pens of Three Welsh Mountain Shearling Ewes, bred in same Flock.*
[4 entries, none absent.]

2242 I. (£10.)—W. CONWY BELL, Brynyffynon, Rhuddlan, Flintshire.

2243 II. (£5.) & 2244 R. N. & H. C.—THE UNIVERSITY COLLEGE OF NORTH WALES, Madryn, Aber, Bangor.

Black-faced Mountain.¹

Class 277.—*Black-faced Mountain Rams, Two-Shear and upwards.*
[14 entries, 2 absent.]

2248 I. (£10.)—CADZOW BROS., Borland and Stonehill, Dunsyre, Carstairs Junction, for Master of Works, born April 15, 1904.

2256 II. (£5. & R. N. for Special.²)—JOHN ROBSON, Maysheil, Duns, for ram, born in 1905, bred by M. P. Fraser, Rankinston, Ayr.

2257 III. (£3.)—JOHN ROBSON, Newton, Bellingham, for ram, born in 1905, bred by Adam Archibald, Overshiels, Stow.

2258 IV. (£2.)—JOHN ROBSON, Newton, Bellingham, for ram, born in 1906.

Class 278.—*Black-faced Mountain Shearling Rams.*
[16 entries, none absent.]

2272 I. (£10. & Special.²)—JOHN ROBSON, Newton, Bellingham.

2263 II. (£5.) & 2262 III. (£3.)—CADZOW BROS., Borland and Stonehill, Dunsyre.

2260 IV. (£2.)—ADDISON & PAISLEY, Tarslet Hall, Bellingham.

Class 279.—*Black-faced Mountain Ram Lambs.* [8 entries, 2 absent.]

2283 I. (£10.)—JOHN ROBSON, Newton, Bellingham, Northumberland.

2277 II. (£5.)—CADZOW BROS., Borland and Stonehill, Dunsyre, Carstairs Junction.

2276 III. (£3.)—ADDISON & PAISLEY, Tarslet Hall, Bellingham.

Class 280.—*Black-faced Mountain Ewes, Two-Shear and upwards.*
[9 entries, 1 absent.]

2232 I. (£10. & R. N. for Special.³) & 2291 III. (£3.)—JOHN ROBSON, Newton Bellingham, for ewes, born in 1903.

2286 II. (£5.)—CADZOW BROS., Borland and Stonehill, Dunsyre, Carstairs Junction, for ewe, born April 15, 1904.

Class 281.—*Black-faced Mountain Shearling Ewes.*
[15 entries, 1 absent.]

2305 I. (£10. & Special.³) & 2306 III. (£3.)—JOHN ROBSON, Newton, Bellingham.

2295 II. (£5.)—CADZOW BROS., Borland and Stonehill, Dunsyre, Carstairs Junction.

PIGS.

Large White Breed.

Class 282.—*Large White Boars, farrowed in 1904, 1905, or 1906.*
[15 entries.]

2322 I. (£10. & Champion.⁴)—ALFRED W. WHITE, Hillegom, Spalding, for Turk of Spalding 10147, born Jan. 20, 1906, bred by W. E. Measures, Tallington, Stamford; s. Ruddington Right Stamp 8717, d. Peterboro Carnation 16014 by Shitterton Turk 7937.

2312 II. (£5.)—THOMAS HENSON, Eastgate, Peterborough, for Right Stamp of Peterboro 10069, born Jan. 20, 1906, bred by W. E. Measures, Tallington, Stamford; s. Ruddington Right Stamp 8717, d. Peterboro Carnation 16014 by Shitterton Turk.

2308 III. (£3.)—T. DODD & SONS, Mollington, Chester, for Mollington Mayor 2nd 9977, born July 10, 1905; s. Mollington Mayor 7837, d. Mollington Mabel 5th 15912 by Mollington J. P. 7151.

2310 IV. (£2.) THE EARL OF ELLESMERE, Worsley Hall, Manchester, for Samson of Worsley 10095, born Jan. 15, 1905, bred by W. E. Measures, Tallington, Stamford; s. Ruddington Right Stamp 8717, d. Tallington Lady 17488 by Bottesford Turk.

2321 R. N. & H. C.—W. H. & E. WHERRY, Bourne, Lincs, for Giant Goliath.

¹ £25 towards these Prizes were given by Breeders of Black-faced Sheep.

² Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ram in Classes 277 and 278.

³ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Ewe in Classes 280 and 281.

⁴ Champion Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Boar or Sow in Classes 282-286.

Award of Live Stock Prizes at Newcastle, 1908. ciii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 283.—Large White Boars, farrowed in 1907.¹ [10 entries.]

- 2332 I. (£10).—R. R. ROTHWELL, Fulwood Hall Farm, Preston, for boar, born Jan. 3; s. Mansball Baron Fulwood 9971, d. Fulwood Molly 1st 18724 by Fulwood Duke 8569.
 2323 II. (£5).—D. R. DAYBELL, Bottesford, Nottingham, for Bottesford Eclipse 10615, born Jan. 5; s. Ruddington Eclipse of Bottesford 10081, d. Bottesford Perfection 5th 12312 by Borrowfield Long Sam 2nd 5869.
 2324 III. (£3).—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for Marchington Herdsman 10929, born, Jan. 19, bred by G. P. Leason, Marchington, Uttoxeter; s. Ruddington Roger of Bottesford 10083, d. Bottesford Marchington Queen 18128 by Bottesford Artbur 8487.
 2325 R. N. & H. C.—THE EARL OF ELLESMERE, for Worsley Turk 4th.
 2331 Special.²—THOMAS RIPPON, Forest Hall, Newcastle-on-Tyne, for Worsley Joe.

Class 284.—Large White Boars, farrowed in 1908. [25 entries.]

- 2333 I. (£10), & 2334 II. (£5).—D. R. DAYBELL, Bottesford, Nottingham, for boars, born Jan. 4; s. Ruddington Eclipse of Bottesford 10081, d. Bottesford Daisy Bell 7th 18118 by Wissett Young Ruddington Champion 8077.
 2338 III. (£3).—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for boar, born Jan. 2; s. Roger 7203, d. Bottesford Empress 3rd 16714 by Borrowfield Ringleader 20th.
 2335 IV. (£2).—D. R. DAYBELL, for boar, born Jan. 5; s. Worsley Roger 16th 10231, d. Bottesford Queen 40th 12332 by Bottesford Long Sam 5893.
 2340 R. N. & H. C.—THE EARL OF ELLESMERE.

Class 285.—Large White Breeding Sows, farrowed in 1904, 1905, or 1906. [11 entries.]

- 2359 I. (£10).—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for Bottesford Marchington Queen 18128, born Jan. 9, 1906, farrowed Jan. 5, bred by D. R. Daybell, Bottesford, Nottingham; s. Bottesford Artbur 8487, d. Scarsdale Jewel 4th 14528 by Scarsdale King Edward 7223.
 2361 II. (£5).—SIR GILBERT GREENALL, BT., Walton Hall, Warrington, for Sowerby Mabel 5th 17432, born May 7, 1905, farrowed Jan. 25, bred by R. Stuart, Brook Vale, Sowerby; s. Sowerby Roger 8747, d. Sowerby Mabel 3rd 17428 by Sowerby Beau.
 2368 III. (£3).—ALFRED W. WHITE, Hillegom, Spalding, for Queen Anne of Spalding 19362, born Aug. 22, 1905, farrowed March 1, bred by Thomas Henson, Eastgate, Peterborough; s. Peterborough Sam 2nd 8691, d. Peterboro Queen 4th 11582 by Peterboro King 6019.
 2366 R. N. & H. C.—R. R. ROTHWELL, Fulwood Hall Farm, Preston, for Fullbeam.
 2365 Special.³—THOMAS RIPPON, Forest Hall, Newcastle-on-Tyne, for Benton Bloom.

Class 286.—Large White Sows, farrowed in 1907. [10 entries.]

- 2377 I. (£10, & R. N. for Champion.⁴)—W. H. & E. WHERRY, Bourne, for Bourne Beauty 2nd 20512, born Jan. 1; s. Giant Goliath 9865, d. Bourne Madam 13720 by Ewerby General 6375.
 2370 II. (£5).—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for Miss Russell Walker, born Jan. 3, bred by Charles Spencer, Holywell Manor, St. Ives; s. Holywell Bourne 9161, d. Holywell Accidental 18864 by Holywell John Day 6409.
 2375 III. (£3).—W. E. MEASURES, Tallington, Stamford, for Tallington Carnation 21716, born Jan. 15; s. Worsley Monarch 19th 9371, d. Peterboro Carnation 16014 by Shitterton Turk 7937.
 2371 R. N. & H. C.—THE EARL OF ELLESMERE, for Worsley Hope 4th.

Class 287.—Pens of Three Large White Sows, farrowed in 1908. [12 entries.]

- 2383 I. (£10).—THE EARL OF ELLESMERE, Worsley Hall, Manchester, for pen, born Jan. 12; s. Barkwith Joe 6895, d. Worsley Princess 21th 1764 by Roger 7203.
 2382 II. (£5).—THE EARL OF ELLESMERE, for pen, born Jan. 2; s. Worsley Roger 8827, d. Duchess of Worsley 2nd 16864 by Peterborough Sam 2nd 8691.
 2381 III. (£3).—THE EARL OF ELLESMERE, for pen, born Jan. 2; s. Roger 7203, d. Bottesford Empress 3rd 16714 by Borrowfield Ringleader 20th 6291.
 2380 R. N. & H. C.—D. R. DAYBELL, Bottesford, Nottingham.

¹ Prizes given by the National Pig Breeders' Association.

² Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Boar in Classes 282-284.

³ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies for Members of those Societies only, for the best Sow in Classes 285 and 286.

⁴ Champion Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Boar or Sow in Classes 282-286.

civ *Award of Live Stock Prizes at Newcastle, 1908.*

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Middle White Breed.

Class 288.—*Middle White Boars, farrowed in 1904, 1905, or 1906.*

[5 entries.]

- 2392 I. (£10.)—SIR GILBERT GREENALL, BT., Walton Hall, Warrington, for Walton Clumber 4th 9427, born Jan. 8, 1905; s. Walton Clumber 3rd 8879, d. Walton Rose 19th 15136 by Walton John 6755.
 2395 II. (£5.)—CHARLES SPENCER, Holywell Manor, St. Ives, for Holywell Victor Chief 11283, born Aug. 3, 1916, bred by Sanders Spencer & Son, Holywell Manor; s. Holywell Rosario 8857, d. Holywell Victoria Countess 13298 by Holywell Count.
 2391 III. (£3.)—SIR GILBERT GREENALL, BT., for Brockhall Clumber 10265, born Sept. 3, 1905; s. Walton Clumber 3rd 8879, d. Walton Rose 19th 15136 by Walton John 6755.
 2394 R. N. & H. C.—LEOPOLD C. PAGET, Harewood, Leeds, for Wharfedale Barbarian.

Class 289.—*Middle White Boars, farrowed in 1907.*¹ [2 entries.]

- 2396 I. (£10, Champion,² & Special.³)—LEOPOLD C. PAGET, Harewood, Leeds, for Wharfedale Reveller 11329, born Jan. 9; s. Wharfedale Happy Lad 9467, d. Wharfedale Barmaid 17810 by Holywell Sherborne 8173.
 2397 II. (£5.)—J. G. WILLIAMS, Pendley Manor, Tring, for Pendley Count, born Aug. 21; s. First Choice of Pendley 10277, d. Holywell Lancaster Rose 19884 by Holywell Viscount 8179.

Class 290.—*Middle White Boars, farrowed in 1908.* [10 entries.]

- 2402 I. (£10, & R. N. for Special.³)—LEOPOLD C. PAGET, Harewood, Leeds, for boar born Jan. 9; s. Wharfedale Royal Dandy 10343, d. Wharfedale Barmaid 17810 by Holywell Sherborne 8173.
 2404 II. (£5), 2405 III. (£3), & 2406 R. N. & H. C.—THE EARL OF SEFTON, Croxteth Hall, Liverpool, for boars, born Jan. 23; s. Walton Clumber 4th 9427, d. Walton Rose 30th 16350 by Walton Dainty 3rd 8201.

Class 291.—*Middle White Breeding Sows, farrowed in 1904, 1905, or 1906.*

[6 entries.]

- 2409 I. (£10, & R. N. for Champion.²)—SIR GILBERT GREENALL, BT., Walton Hall Warrington, for Walton Rose 57th 19994, born Feb. 1, 1906, farrowed Feb. 4; s. Offley John 7395, d. Walton Rose 22nd 15142 by Walton Dainty 6753.
 2410 II. (£5, & Special.⁴)—LEOPOLD C. PAGET, Harewood, Leeds, for Sarah of Wharfedale, born July 4, 1906, farrowed Jan. 5, bred by W. Baneroff, Mere Bank, Weaverham; s. Walton Clumber 4th 9427, d. Mere Bank Sally 2nd by Good Boy.
 2413 III. (£3.)—THE EARL OF SEFTON, Croxteth Hall, Liverpool, for Tarbock Pattie 1st 19972, born July 16, 1905, farrowed Feb. 3, bred by Sir Gilbert Greenall, BT., Walton Hall, Warrington; s. Walton Rufus 8215, d. Walton Pattie 4th 16342 by Hardwick Albert 7357.
 2412 R. N. & H. C.—THE HON. D. P. BOUVERIE, for Coleshill Jewel 4th.

Class 292.—*Middle White Sows, farrowed in 1907.* [4 entries.]

- 2417 I. (£10.)—CHARLES SPENCER, Holywell Manor, St. Ives, for Holywell Rosette, born Jan. 4; s. Holywell Vulcan 10305, d. Holywell Rosadora 2nd 19886 by Castlecroft Dictator 6111.
 2416 II. (£5, & R. N. for Special.⁴)—LEOPOLD C. PAGET, Harewood, Leeds, for Wharfedale Prudence 22148, born Feb. 5; s. Offley Dandy 9417, d. Wharfedale Rosamund 16392 by Holywell Viscount 8179.
 2415 III. (£3.)—LEOPOLD C. PAGET, for Wharfedale Patience 22144, born Feb. 5; s. Offley Dandy 9417, d. Wharfedale Rosamund 16392 by Holywell Viscount 8179.
 2414 R. N. & H. C.—LEOPOLD C. PAGET, for Wharfedale Flower Girl.

Class 293.—*Pens of Three Middle White Sows, farrowed in 1908.*

[8 entries.]

- 2419 I. (£10.)—LEOPOLD C. PAGET, Harewood, Leeds, for pen, born Jan. 9 and 11; ss. Offley Dandy 9417, Wharfedale Royal Dandy 10343, and Wharfedale Middleton 9403, ds. Wharfedale Frolic 17826 by Holywell Sherborne 8173, Wharfedale Barmaid 17810 by Holywell Sherborne 8173, and Madge of Wharfedale 19918 by Warren Royalist 9461.

¹ Prizes given by the National Pig Breeders' Association.

² Champion Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Boar or Sow in Classes 288-292.

³ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Boar in Classes 288-290.

⁴ Special Prize of £5 given by the Northumberland and Durham Agricultural Societies, for Members of those Societies only, for the best Sow in Classes 291 and 292.

Award of Live Stock Prizes at Newcastle, 1908. cv

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

- 2420 II. (£5.)—LEOPOLD C. PAGET, for pen, born Jan. 9 and 11; ss. Wharfedale Royal Dandy 10343 and Offley Dandy 9417, ds. Wharfedale Barmaid 17810 by Holywell Sherborne 8173 and Wharfedale Frolic 17826 by Holywell Sherborne 8173.
- 2421 III. (£3.)—THE HON. D. P. BOUVERIE, Coleshill House, Highworth, for pen, born Jan. 4; s. Baron of Coleshill 10263, ds. Jewel 2nd 14980 by Coleshill Duke 8121 and Coleshill Dora 2nd 19818 by Coleshill Dandy 8119.
- 2423 R. N. & H. C.—THE EARL OF SEFTON, Croxteth Hall, Liverpool.

Tamworth Breed.

Class 294.—*Tamworth Boars, farrowed in 1904, 1905, or 1906.*

[2 entries.]

- 2427 I. (£10.)—E. J. MORANT, Brockenhurst Park, Hants, for **Dilton Puritan** 11355, born Jan. 2, 1906; s. Charlie 11339, d. Dilton Stumpy 22182 by Knowle Warrior 6813.
- 2426 II. (£5.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for **Knowle Lycidas** 10427, born Sept. 3, 1905; s. Knowle Bounder 8945, d. Knowle Chestnut 5th 16502 by Knowle Forester 5369.

Class 295.—*Tamworth Boars, farrowed in 1907.*¹ [7 entries.]

- 2430 I. (£10, & R. N. for Champion.²)—ROBERT IBBOTSON, The Hawthorns, Knowle, for **Bishop of Knowle**, born Jan. 12, bred by Mrs. E. Ibbotson, Gun Hill, Arley; s. Scarlet Gem 9553, d. Gun Hill Gem 20126 by Whitacre Radium 8987.
- 2431 II. (£5.)—ROBERT IBBOTSON, for **Knowle Red Gauntlet** 11395, born Jan. 16; s. Lydney Red Gauntlet 9517, d. Knowle Golden Dame 20150 by Knowle Bounder.
- 2433 III. (£3.)—H. C. STEPHENS, Cholderton, Salisbury, for **Cholderton Hope** 11341, born June 24; s. Rolleston Victor 8375, d. Cholderton Favourite 5th 12062 by Knowle King 3rd 4945.
- 2434 R. N. & H. C.—SIR PETER C. WALKER, BT., for **Rufus of Osmaston**.

Class 296.—*Tamworth Boars, farrowed in 1908.* [4 entries.]

- 2436 I. (£10.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for boar, born Jan. 12; s. Bishop of Knowle 11337, d. Knowle Dewdrop 4th 22214 by Lydney Red Gauntlet 9517.
- 2437 II. (£5.)—ROBERT IBBOTSON, for boar, born Jan. 24; s. Knowle King Solomon 3rd 11381, d. Knowle Sylvia 20176 by Cicero 9475.
- 2435 III. (£3.)—ROBERT IBBOTSON, for boar, born Jan. 6; s. Knowle Lycidas 10427, d. Knowle Doris 17908 by Knowle Bounder 8945.
- 2438 R. N. & H. C.—E. J. MORANT, Brockenhurst Park, Hants.

Class 297.—*Tamworth Breeding Sows, farrowed in 1904, 1905, or 1906.*

[4 entries.]

- 2441 I. (£10.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for **Knowle Sylvia** 20176, born July 11, 1906, farrowed Jan. 24; s. Cicero 9475, d. Knowle Beauty 2nd 17886 by Rolleston Victor 8375.
- 2439 II. (£5.)—EGBERT DE HAMEL, Middleton Hall, Tamworth, for **Middleton Morgana** 20220, born Jan. 1, 1906, farrowed Jan. 2; s. Middleton Majestic 8971, d. Middleton Megallie 16576 by Middleton Mainspring 6825.
- 2440 III. (£3.)—ROBERT IBBOTSON, for **Knowle Chestnut** 10th 20138, born March 2, 1906, farrowed Jan. 29; s. Knowle Druid 10395, d. Knowle Chestnut 5th 16502 by Knowle Forester 5369.

Class 298.—*Tamworth Sows, farrowed in 1907.* [9 entries.]

- 2444 I. (£10, & Champion.²)—ROBERT IBBOTSON, The Hawthorns, Knowle, for **Constance** 22166, born Jan. 12, bred by Mrs. E. Ibbotson, Gun Hill, Arley; s. Scarlet Gem 9553, d. Gem of Gun Hill 20126 by Whitacre Radium 8987.
- 2451 II. (£5.)—SIR PETER C. WALKER, BT., Osmaston Manor, Derby, for **Poppy of Osmaston** 22264, born Jan. 23, bred by J. Pearman, Kingsbury, Tamworth; s. Scarlet Gem 9553, d. Kingsbury Lassie 22200 by Whitacre Unionist 2nd 10513.
- 2450 III. (£3.)—SIR PETER C. WALKER, BT., for **Ivy of Osmaston** 22198, born March 5, bred by W. J. Pitt, The Albynes, Bridgnorth; s. Director of Whitacre 10381, d. Albynes Crocus 22158 by Whitacre Premier 7517.
- 2447 R. N. & H. C.—SIR OSWALD MOSLEY, BT., Rolleston Hall, Burton-on-Trent, for **Crocus**.

Class 299.—*Pens of Three Tamworth Sows, farrowed in 1908.* [2 entries.]

- 2453 I. (£10.)—ROBERT IBBOTSON, The Hawthorns, Knowle, for pen, born Jan. 12; s. Bishop of Knowle 11337, d. Knowle Dewdrop 4th 22214 by Lydney Red Gauntlet.
- 2452 II. (£5.)—ROBERT IBBOTSON, for pen, born Jan. 6; s. Knowle Lycidas 10427, d. Knowle Doris 17908 by Knowle Bounder 8945.

¹ Prizes given by the National Pig Breeders' Association.

² Champion Gold Medal, value £5 5s., given by the National Pig Breeders' Association for the best Boar or Sow in Classes 294-298.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Berkshire Breed.

Class 300.—Berkshire Boars, farrowed in 1904, 1905, or 1906. [8 entries.]

- 2459 I. (£10.)—J. JEFFERSON, Peel Hall, Chester, for *Peel Eclipse* 12140, born Jan. 3, 1906; s. *Peel Leonard* 10524, d. *Peel Rose* 3rd 10522 by Lord Burton 8840.
 2456 II. (£5.)—LAURENCE CURRIE, Minley Manor, Farnborough, for *Danesfield Robert* 11224, born Aug. 1, 1905, bred by R. W. Hudson, Danesfield, Marlow; s. *Baron Kitchener* 8403, d. *Danesfield Sis* 9425 by *Manor Favourite* 7831.
 2457 III. (£3.)—R. W. HUDSON, Danesfield, Marlow, for *Okeford Emperor* 10779, born July 17, 1904, bred by the Hon. C. B. Portman, Child Okeford, Blandford; s. *Okeford Rock* 10068, d. *Manor Empress Queen* 8660 by *First Rank F.* 7422.
 2455 R. N. & H. C.—G. J. B. CHETWYND, Wyndthorpe, Doncaster, for *Highmoor Santoi*.

Class 301.—Berkshire Boars, farrowed in 1907.¹ [9 entries.]

- 2463 I. (£10, & R. N. for Champion.²)—G. J. B. CHETWYND, Wyndthorpe, Doncaster, for *Don Camphor* 12387, born May 20, bred by R. B. Vincent, Compton Valence, Dorchester; s. *Highmoor Tory* 11037, d. *Compton Crocus* 12271 by *Supreme's Boy*.
 2470 II. (£5.)—E. J. MORANT, Brockenhurst Park, Hants, for *Hayward Hero*, born June 17; s. *Hayward Hightide* 13188, d. *Ethel* 13185 by *High Quality* 8299.
 2466 III. (£3.)—J. JEFFERSON, Peel Hall, Chester, for *Peel Boy*, born July 27; s. *Peel Eclipse* 12140, d. *Peel Joan* 8751 by *Baron Oxford* 6th 7457.
 2469 R. N. & H. C.—EARL MANVERS, Thoresby Park, Ollerton, for *Wyndthorpe Canute*.

Class 302.—Berkshire Boars, farrowed in 1908. [13 entries.]

- 2471 I. (£10.)—LORD CALTHORPE, Elvetham Park, Winchfield, for boar, born Jan. 1; s. *Wyndthorpe Cherub* 11645, d. *Compton Bloom* 12267 by *Supreme's Boy* 9743.
 2473 II. (£5.)—G. J. B. CHETWYND, Wyndthorpe, Doncaster, for *Wyndthorpe Carpenter* 13357, born Jan. 18; s. *Don Confidence* 10987, d. *Danesfield May Queen* 10359 by *Danesfield Don* 9452.
 2479 III. (£3.)—THE EXORS. OF THE LATE COL. H. MCCALMONT, Cheveley Park, Newmarket, for *Links Lackey*, born Jan. 2; s. *Velmore Topper* 10456, d. *Links Face* 10983 by *Manor Very Choice* 7634.
 2474 R. N. & H. C.—G. J. B. CHETWYND, for *Wyndthorpe Carter*.

Class 303.—Berkshire Breeding Sows, farrowed in 1904, 1905, or 1906.
 [12 entries.]

- 2491 I. (£10, & Champion.²)—J. JEFFERSON, Peel Hall, Chester, for *Peel Edie* 12598, born July 21, 1906, farrowed March 1; s. *Lyneham Lad* 9506, d. *Peel Edith* 9795 by *Peel Arthur* 8751.
 2487 II. (£5.)—JOSEPH HORTON, Fern Hill, Moseley, Birmingham, for *Moseley Princess*, born April 18, 1906, farrowed Jan. 24, bred by W. A. Barnes, Shirley, Birmingham; s. *Wig Nag Augustus* 9917, d. *Rubicels Queen* 13th 10586 by *Lisle Grand Duke* 8446.
 2493 III. (£3.)—E. J. MORANT, Brockenhurst Park, Hants, for *Hayward Beauty* 2nd 13195, born Jan. 27, 1905, farrowed Jan. 26; s. *Marlborough* 2nd 10581, d. *Hayward Beauty* 13194 by *Manor Palladur* 9247.
 2485 R. N. & H. C.—LORD CALTHORPE, for *Elvetham Fancy*.

Class 304.—Berkshire Sows, farrowed in 1907. [12 entries.]

- 2502 I. (£10.)—J. JEFFERSON, Peel Hall, Chester, for *Peel Coquette* 13341, born Feb. 18, bred by the Earl of Carnarvon, Highclere Castle, Newbury; s. *Sailor Prince* 11936, d. *Highclere Coquette* 11928 by *Harold H.* 10238.
 2505 II. (£5.)—HUGH PEACOCK, Greatford Hall, Stamford, for *Polegate Dorrit*, born Jan. 4, bred by the Duchess of Devonshire, Compton Place, Eastbourne; s. *Harold H.* 10238, d. *Polegate Dorothy* 10390 by *Baron Kitchener* 8403.
 2499 III. (£3.)—R. W. HUDSON, Danesfield, Marlow, for *Gem* 12730, born Jan. 18, bred by G. T. Inman, Highmoor Hall, Henley-on-Thames; s. *Highmoor Shogun* 11806, d. *Highmoor Gem* 10427 by *Barsac* 7645.
 2496 R. N. & H. C.—LORD CALTHORPE, for *Earlsfield Belle* 23rd.

Class 305.—Pens of Three Berkshire Sows, farrowed in 1908. [7 entries.]

- 2514 I. (£10.)—C. F. RAPHAEL, Porter's Park, Shenley, Barnet, for pen, born Jan. 2; s. *Porter's Chief* 12061, ds. *Porter's Princess* by *Broughton Herald* 10121 and *Porter's Queen* by *First Rank F.* 7422.
 2510 II. (£5.)—LAURENCE CURRIE, Minley Manor, Farnborough, for pen, born June 3; s. *Whitley Doge*, d. *Stoke Dolly* 11238 by *Stoke Julius* 7668.
 2509 III. (£3.)—G. J. B. CHETWYND, Wyndthorpe, Doncaster, for pen, born Jan. 18; s. *Don Confidence* 10987, d. *Danesfield May Queen* 10359 by *Danesfield Don* 9432.
 2511 R. N. & H. C.—R. W. HUDSON, Danesfield, Marlow.

¹ Prizes given by the British Berkshire Society.

² Champion Prize of £5 5s. given by the British Berkshire Society for the best Boar or Sow in Classes 300-304.

Award of Live Stock Prizes at Newcastle, 1908. cvii

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Large Black Breed.

Class 306.—Large Black Boars, farrowed in 1904, 1905, or 1906.

[6 entries.]

- 2518 I. (£10, & Champion.¹)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge for Hasketon Black King 4th 1129, born Feb. 12, 1904; s. Black King 545, d. Long Lady 1-08 by Launceston Duke 395.
- 2520 II. (£5.)—JOHN WARNE, Treveglos, St. Mabyn, for Treveglos Pride 2221, born Aug. 24, 1906, bred by H. J. Kingwell, Great Aish, South Brent; s. Coombe Happy Boy 1813, d. Brent Sunflower 5004 by Trescowe Pride 875.
- 2515 III. (£3.)—TERAH F. HOOLEY, Papworth-Everard, Cambridge, for Stroud Masterpiece 1373, born March 27, 1905, bred by W. Townsend, The Manse, Stroud; s. Borsal Masterpiece 841, d. Stroud Marvel 3304 by Goldfinder 449.
- 2516 R. N. & H. C.—H. J. KINGWELL, Great Aish, South Brent, for Brent Happy Boy.

Class 307.—Large Black Boars, farrowed in 1907.² [9 entries.]

- 2527 I. (£10, & R. N. for Champion.¹)—THOMAS WARNE, Trevisquite Manor, St. Mabyn, for Trevisquite Royal 2405, born May 3, bred by F. A. Johns, Cleave, Lifton, Devon; s. Cornwood Duke 1871, d. Cleave Countess 5140 by Trevisquite Confidence 1203.
- 2522 II. (£5.)—J. H. GLOVER, The Inn, Cornwood, for Goodameavy Monarch 2329, born March 3, bred by J. Oscar Muntz, Goodameavy, Yelverton; s. Goodameavy Triumph 1717, d. Lady Godiva 4892 by Trescowe Pride 875.
- 2523 III. (£3.)—THOMAS GOODCHILD, Great Yeldham Hall, Castle Hedingham, for Tarcowe Prince 2345, born March 16; s. Trescowe Prince 657, d. Tartar Princess 12th 2656 by Black Akenham 309.
- 2525 R. N. & H. C.—C. F. MARRINER, for Hasketon Lux 14th.

Class 308.—Large Black Boars, farrowed in 1908. [22 entries.]

- 2542 I. (£10.)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for boar, born Jan. 8; s. Hasketon Black King 4th 1129, d. Frith Manor Polly 1st 4428 by Black King Coffee 1167.
- 2546 II. (£5.)—THOMAS WARNE, Trevisquite Manor, St. Mabyn, for boar, born Jan. 15, bred by F. A. Johns, Cleave, Lifton, Devon; s. Cleave Rentpayer 2163, d. Cleave Alpha 5138 by Trevisquite Confidence 1203.
- 2549 III. (£3.)—W. & H. WHITLEY, Primley Farm, Paignton, for boar, born Jan. 8; s. Whalesborough Chief 717, d. Brent Sapphire 6694 by Cornwood King 1467.
- 2551 IV. (£2.)—WILLIAM WILLS, Old Court, Tortworth, Falfield, for Tortworth Marquis 2nd, born Jan. 4; s. The Prior 1427, d. Marchioness 1st 5054 by Cornwood Marquis 633.
- 2533 R. N. & H. C.—J. H. GLOVER, The Inn, Cornwood, for Cornwood Commander.

Class 309.—Large Black Breeding Sows, farrowed in 1904, 1905, or 1906.

[7 entries.]

- 2555 I. (£10, & Champion.³)—H. J. KINGWELL, Great Aish, South Brent, for Brent Dame 5838, born Jan. 26, 1906, farrowed Jan. 27; s. Trescowe Pride 875, d. Cornwood Lass 11th 3710 by Cornwood Marquis 633.
- 2556 II. (£5, & R. N. for Champion.³)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for Hasketon Long Bess 5th 5686, born July 25, 1905, farrowed Jan. 31; s. Royal Bodmin 455, d. Hasketon Long Bess 4th 4156 by Black King 545.
- 2557 III. (£3.)—JOHN WARNE, Treveglos, St. Mabyn, for Treveglos Floradora 6980, born Nov. 1, 1906, farrowed Feb. 6, bred by J. C. Oliver, Woodland, Ladock; s. King of the Valley 1869, d. Beauty of the Valley 2nd 6072 by Havett Lad 885.
- 2552 R. N. & H. C.—THOMAS GOODCHILD, for Tartar Princess 32nd.

Class 310.—Large Black Sows, farrowed in 1907. [12 entries.]

- 2560 I. (£10.)—H. J. KINGWELL, Great Aish, South Brent, for Brent Secret 3rd 7036, born April 28; s. Stroud Masterpiece 1373, d. Brent Secret 5378 by Trescowe Pride 875.
- 2563 II. (£5.)—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for Hasketon Long Lady 3rd 7270, born Jan. 7; s. Lux Rex 1189, d. Long Lady 1808 by Launceston Duke 395.
- 2564 III. (£3.)—C. F. MARRINER, for Hasketon Long Lady 4th 7272, born Jan. 7; s. Lux Rex 1189, d. Long Lady 1808 by Launceston Duke 395.
- 2568 R. N. & H. C.—W. J. WARREN, Mill House, Ash Priors, Taunton, for Ash Prior Lady.

¹ Champion Prize of £10 given by the Large Black Pig Society for the best Boar in Classes 306-308.

² Prizes given by the Large Black Pig Society.

³ Silver Challenge Cup, value Twenty Guineas, given by the Large Black Pig Society for the best Sow in Classes 309 and 310, the Cup to become the absolute property of an Exhibitor winning it twice in succession or three times in all.

cviil Award of Live Stock Prizes at Newcastle, 1908.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

Class 311.—*Pens of Three Large Black Sows, farrowed in 1908.* [8 entries.]

- 2574 I. (£10).—C. F. MARRINER, Thorpe Hall, Hasketon, Woodbridge, for pen, born Jan. 8; s. Hasketon Black King 4th 1129, d. Frith Manor Polly 1st 4428 *by* Black King Coffee 1167.
 2572 II. (£5).—THOMAS GOODCHILD, Great Yeldham Hall, Castle Hedingham, for pen born Jan. 4 and 6; ss. Tortworth Prince 2083 and Trestar Prince 2347, ds. Tartar Princess 39th 7130 *by* Charco 1833 and Tartar Princess 36th 5978 *by* Trescowe Prince 657.
 2577 III. (£3).—W. & H. WHITLEY, Primley Farm, Paignton, for pen, born Jan. 7; s. Wbalesborough Chief 717, d. Brent Pretty Polly 5680 *by* Trescowe Pride 875.
 2573 R. N. & H. C.—WILLIAM KNIGHT, Wintringham Hall, St. Neots, for Wintringham Rubio, Wintringham Violetta, and Wintringham Virette.

Lincolnshire Curly-coated Breed.

Class 312.—*Lincolnshire Curly-coated Boars, farrowed in 1904, 1905, or 1906.* [5 entries.]

- 2583 I. (£10, & Champion.¹)—T. WARD & SON, Carrington Grange, Boston, for Leadenhall Baldwin 497, born April 15, 1906, bred by W. H. Ward, Carrington House, Boston; s. Carrington Taylor 389, d. Carrington Maud 84 *by* Carrington Samson 27.
 2581 II. (£5).—GEORGE FREIR, Tolethorpe House, Deeping St. Nicholas, Spalding, for Milestone Bob 527, born March 20, 1906, bred by Henry Caudwell, Midville, Boston; s. Midville Bob 223, d. Midville Beauty 594 *by* Midville Casswell 221.
 2582 III. (£3).—BENJAMIN ROWLAND, Ivy House, Wainfleet, for boar, born April, 1906, bred by Henry Caudwell, Midville, Boston; s. Midville Bob 223, d. Midville Barmaid 2nd *by* Midville Casswell 221.
 2580 R. N. & H. C.—HENRY CAUDWELL, Midville, Boston, Lincs.

Class 313.—*Lincolnshire Curly-coated Boars, farrowed in 1907.*² [3 entries.]

- 2586 I. (£10).—GEORGE GODSON, Asgarby, Heckington, for Heckington Great Gun 471, born in Jan., bred by R. A. Greetham, Swineshead Bridge, Boston; s. Midville Bob 223, d. Swineshead Bridge Bridget 782 *by* Swineshead Bridge Sam 305.
 2585 II. (£5).—W. M. EPTON, Croft, Wainfleet, for Havenhouse Top Score 465, born Feb. 9, bred by H. Scorer, East Kirkby, Spilsby; s. Midville County Councillor 519, d. East Kirkby Alexander 236 *by* Stickney Alec 291.
 2584 III. (£3).—HENRY CAUDWELL, Midville, Boston, for boar, born March 14; s. Midville Bob 223, d. Midville Bess 1st 590 *by* Midville Wright 219.

Class 314.—*Lincolnshire Curly-coated Boars, farrowed in 1908.* [12 entries.]

- 2598 I. (£10, & R. N. for Champion.¹)—T. WARD & SON, Carrington Grange, Boston, for boar, born Jan. 18; s. Leadenhall Baldwin 497, d. Leadenhall Alice 518 *by* Leadenhall Toby 193.
 2589 II. (£5).—S. E. DEAN & SONS, Dowsby Hall, Bourne, for boar, born in March; s. Thornton James, d. Dowsby Rose 3rd 1312 *by* Dowsby Lincoln 1st 79.
 2596 III. (£3).—H. G. THORPE, Hemswell Grange, Lincoln, for boar, born Jan. 26; s. Gainsborough's Masterpiece 449, d. Ruston's Choice 724 *by* Hemswell King 151.
 2595 R. N. & H. C.—J. H. SMITH, Firsby, Spilsby.

Class 315.—*Lincolnshire Curly-coated Breeding Sows, farrowed in 1904, 1905, or 1906.* [8 entries.]

- 2603 I. (£10, & Champion.³)—GEORGE FREIR, Tolethorpe House, Deeping St. Nicholas, Spalding, for Deeping Pride 2nd 158, born Jan. 5, 1906, farrowed Jan. 25; s. Crowland Tom 39, d. Deeping Princess 148 *by* Deeping Hurn 47.
 2600 II. (£5, & R. N. for Champion.³)—HENRY CAUDWELL, Midville, Boston, for Midville Beauty 3rd 598, born in March, 1905, farrowed Jan. 22; s. Midville Casswell 221, d. Midville Bess 1st 590 *by* Midville Wright 219.
 2605 III. (£3).—T. WARD & SON, Carrington Grange, Boston, for Leadenhall Alice 518 born March 20, 1905, farrowed Jan. 18; s. Leadenhall Toby 193.
 2599 R. N. & H. C.—WILLIAM BRAY, East Keal, Spilsby, for Keal Surprise.

Class 316.—*Lincolnshire Curly-coated Sows, farrowed in 1907.*

[7 entries.]

- 2609 I. (£10).—HENRY CAUDWELL, Midville, Boston, for Midville Queen 1st, born Jan. 9; s. Midville Bob 223, d. Midville Beauty 3rd 598 *by* Midville Casswell 221.
 2612 II. (£5).—H. S. SCORER, East Kirkby House, Spilsby, for East Kirkby Duchess 1344, born Feb. 9; s. Midville County Councillor 519, d. East Kirkby Bay 240 *by* East Kirkby Foundation 83.

¹ Champion Prize of £5 5s. given by the Lincolnshire Curly-coated Pig Breeders' Association for the best Boar in Classes 312-314.

² Prizes given by the Lincolnshire Curly-Coated Pig Breeders' Association.

³ Champion Prize of £5 5s. given by the Lincolnshire Curly-coated Pig Breeders' Association for the best Sow in Classes 315 and 316.

[Unless otherwise stated, each prize animal named below was "bred by exhibitor."]

2610 **III.** (£3.)—GEORGE FREIR, Tolethorpe House, Deeping St. Nicholas, Snaiding, for Deeping Pride 3rd 1272, born Jan. 1; s. Crowland Chief 399, d. Deeping Pride 156 by Crowland Tom 39.

2613 **R. N. & H. C.**—T. WARD & SON, Carrington Grange, Boston.

Class 317.—*Pens of Three Lincolnshire Curly-coated Sows, farrowed in 1908.* [6 entries.]

2619 **I.** (£10.)—J. H. SMITH, Firsby, Spilsby, for pen, born Jan. 26; s. Havenhouse Top Score 465, d. Firsby Amazon 288 by Steeping Knight 287.

2615 **II.** (£5.)—HENRY CAUDWELL, Midville, Boston, for pen, born Jan. 22; s. Midville Keal 523, d. Midville Beauty 3rd 598 by Midville Casswell 221.

2618 **III.** (£3.)—C. E. HARRIS & SONS, Great Hale Fen, Heckington, for pen, born Jan. 3; s. Hale Bob 457, d. Hale Alice 336 by Hale Swell 123.

2616 **R. N. & H. C.**—S. E. DEAN & SONS, Dowsby Hall, Bourne.

POULTRY.

By "Cock," "Hen," "Drake," "Duck," "Gander," and "Goose," are meant birds batched previous to January 1, 1908; and by "Cockerel," "Pullet," "Young Drake," and "Duckling," are meant birds batched in 1908, previous to June 1.

Game.

Class 318.—*Old English Game Cocks.* [25 entries, 2 absent.]

2634 **I.** (20s.)—JOHN JEFFRAY, North Sunderland, Obathill.

2633 **II.** (10s.)—HOWARD & WAKEFIELD, Hetton Lane, Hetton-le-Hole.

2621 **III.** (5s.)—ARMSTRONG & PAULL, 37 West View, Medomsley.

2620 **R. N. & H. C.**—DR. P. L. ARMSTRONG, Northwich.

Class 319.—*Old English Game Hens.* [17 entries, 1 absent.]

2661 **I.** (20s.)—MRS. JOHN C. STRAKER, The Leazes, Hexham.

2646 **II.** (10s.)—MISS R. B. BABCOCK, Rimington, Clitheroe.

2653 **III.** (5s.)—HOWARD & WAKEFIELD, Hetton Lane, Hetton-le-Hole.

2659 **R. N. & H. C.**—STEELE & SMITH, Old Vicarage, Haltwhistle.

Class 320.—*Old English Game Cockerels.* [5 entries, none absent.]

2662 **I.** (20s.)—DR. P. L. ARMSTRONG, Northwich.

2663 **II.** (10s.)—MISS R. B. BABCOCK, Rimington, Clitheroe.

2664 **III.** (5s.)—JOHN OLIVER, Shreepwood Farm, Haydon Bridge.

Class 321.—*Old English Game Pullets.* [10 entries, 1 absent.]

2669 **I.** (20s.)—DR. P. L. ARMSTRONG, Northwich.

2675 **II.** (10s.)—JOHN OLIVER, Shreepwood Farm, Haydon Bridge.

2670 **III.** (5s.)—MISS R. B. BABCOCK, Rimington, Clitheroe.

2672 **R. N. & H. C.**—ISAAC NICHOLSON, Langley Castle Farm, Langley-on-Tyne.

Class 322.—*Indian Game Cocks.* [10 entries, 2 absent.]

2683 **I.** (20s. Special¹, & R. N. for Medal²), and 2684 **II.** (10s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.

2678 **III.** (5s.)—WILLIAM BRENT, Clampit Farm, Callington.

2681 **R. N. & H. C.**—H. M. DE TRAFFORD, Clifton Hall, Tamworth.

Class 323.—*Indian Game Hens.* [11 entries, none absent.]

2693 **I.** (20s. & R. N. for Special¹), and 2694 **III.** (5s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.

2690 **II.** (10s.)—W. T. CLIFFE, Allerton House, Castleford, Yorks.

Class 324.—*Indian Game Cockerels.* [10 entries, 1 absent.]

2702 **I.** (20s.)—FIRTH BROS., Wharton Farm, Acton Vale, W.

2705 **II.** (10s.)—HENRY RUSTON, Vine House, Chatteris.

2701 **III.** (5s.)—GEORGE FAULKNER, Rowton, Chester.

2706 **R. N. & H. C.**—J. Y. WHEATLEY, Appleton Roebuck, Bolton Percy.

Class 325.—*Indian Game Pullets.* [6 entries, 1 absent.]

2711 **I.** (20s.)—GEORGE FAULKNER, Rowton, Chester.

2712 **R. N. & H. C.**—FIRTH BROS., Wharton Farm, Acton Vale, W.

¹ Special Prize of 20s. given for the best Bird in Classes 318-327.

² Silver Medal given by the Poultry Club, for Members of that Club only, for the best Male Bird in the Show.

cx *Award of Poultry Prizes at Newcastle, 1908.*

Class 326.—*Black Sumatra Game Cocks or Cockerels.*
[No entry.]

Class 327.—*Black Sumatra Game Hens or Pullets.* [1 entry.]

2714 III. (5s.)—MISS C. RILOT, South Luffenham, Stamford.

Langshans.

Class 328.—*Langshan Cocks or Cockerels.* [6 entries, none absent.]

2720 I. (20s.)—HARRY WALLIS, Northend, Warley, Brentwood.

2715 II. (10s.)—MISS R. B. BABCOCK, Rimington, Clitheroe.

2718 III. (5s.)—JOSEPH PICKERILL, Broomhall School, Nantwich.

2717 R. N. & H. C.—WILLIAM A. JUKES, Ballymena, St. Mary Cray.

Class 329.—*Langshan Hens or Pullets.* [11 entries, none absent.]

2730 I. (20s.)—HARRY WALLIS, Northend, Warley, Brentwood.

2725 II. (10s.)—JOHN HORN, Fairmead, High Beech, Essex.

2722 III. (5s.)—R. CALLENDER, 7 Barmoor Terrace, Ryton-on-Tyne.

2726 R. N. & H. C.—T. A. HUBAND, Langley Park, Newbury.

Plymouth Rocks.

Class 330.—*Plymouth Rock Barred Cocks.* [10 entries, none absent.]

2740 I. (20s.), & 2739 II. (10s.)—EDWARD SHAW, Leylands, South Road, Morecambe.

2736 III. (5s.)—E. S. JACKSON, M.D., Carnforth.

2737 R. N. & H. C.—G. A. JACKSON, Buckstone House, Carnforth.

Class 331.—*Plymouth Rock Barred Hens.* [8 entries, 1 absent.]

2747 I. (20s.), 2748 II. (10s.) & 2749 III. (5s.)—EDWARD SHAW, South Road, Morecambe.

2742 R. N. & H. C.—JAMES BATEMAN, Milnthorpe.

Class 332.—*Plymouth Rock Barred Cockerels.* [13 entries, 3 absent.]

2750 I. (20s.)—J. W. AIREY, Oak Cottage, Bayhorse, Lancaster.

2752 II. (10s.)—ROBERT CARTER, Fisher's Row, Pilling, Garstang.

2758 III. (5s.)—EDWARD SHAW, Leylands, South Road, Morecambe.

2755 R. N. & H. C.—E. S. JACKSON, M.D., Carnforth.

Class 333.—*Plymouth Rock Barred Pullets.* [12 entries, 1 absent.]

2766 I. (20s.)—J. W. HALL, The Flatts House, Thirsk.

2771 II. (10s.)—EDWARD SHAW, Leylands, South Road, Morecambe.

2772 III. (5s.)—WILLIAM SLATER, Highfield, Lancaster.

2774 R. N. & H. C.—JOHN TAYLOR, Heaton, Lancaster.

Class 334.—*Plymouth Rock Cocks or Cockerels, any other variety.*
[11 entries, 1 absent.]

2776 I. (20s., & Special.¹)—J. MARSDEN CHANDLER, Knivesmith Gate, Chesterfield.

2778 II. (10s.)—GEORGE E. GUSH, Thackham, Winchfield.

2785 III. (5s.)—JOHN TAYLOR, Heaton, Lancaster.

2784 R. N. & H. C.—MRS. JOHN C. STRAKER, The Leazes, Hexham.

Class 335.—*Plymouth Rock Hens or Pullets, any other variety.*
[10 entries, none absent.]

2786 I. (20s.)—JAMES BATEMAN, Milnthorpe. (Buff.)

2791 II. (10s.)—SALVATION ARMY COLONY POULTRY FARM, Hadleigh, Essex. (White.)

2792 III. (5s.)—EDWARD SHAW, Leylands, South Road, Morecambe. (White.)

2787 R. N. & H. C.—GEORGE E. GUSH, Thackham, Winchfield.

Wyandottes.

Class 336.—*Gold or Silver Laced Wyandotte Cocks.* [5 entries, none absent.]

2796 I. (20s.)—O. F. BATES, Harlow Court, Harrogate.

2798 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington, Kent. (Gold.)

2800 III. (5s.)—HENRY PICKLES, Kayfield House, Earby, Colne. (Silver.)

2797 R. N. & H. C.—JOSEPH BRIGGS, Brownney, Durham.

Class 337.—*Gold or Silver Laced Wyandotte Hens.* [7 entries, 3 absent.]

2807 I. (20s.)—HENRY PICKLES, Kayfield House, Earby, Colne. (Silver.)

2802 II. (10s.)—O. F. BATES, Harlow Court, Harrogate.

2804 III. (5s.)—TOM H. FURNESS, Carlton House, Chesterfield.

2801 R. N. & H. C.—FRED ARGO, 24 Beverley Road, Inverurie, Aberdeen. (Silver.)

¹ Special Prize of 20s. given for the best Bird in Classes 328-376.

Class 338.—Gold or Silver Laced Wyandotte Cockerels. [6 entries, 2 absent.]

- 2808 I. (20s.)—O. F. BATES, Harlow Court, Harrogate.
 2812 II. (10s.)—J. M. PHILIPSON, Chesterfield, Haydon Bridge. (Silver.)
 2813 III. (5s.)—HENRY PICKLES, Kayfield House, Earby, Colne. (Silver.)
 2809 R. N. & H. C.—TOM H. FURNESS, Carlton House, Chesterfield.

Class 339.—Gold or Silver Laced Wyandotte Pullets. [17 entries, 1 absent.]

- 2814 I. (20s.)—FRED ARGO, 24 Beverley Road, Inverurie, Aberdeen. (Silver.)
 2821 II. (10s.)—TOM H. FURNESS, Carlton House, Chesterfield
 2829 III. (5s.)—JOHN PROCTER, Goosnargh Mill, Preston. (Gold.)
 2830 R. N. & H. C.—JOHN SALT, Woodend, Heanor, Notts. (Silver.)

Class 340.—White Wyandotte Cocks. [9 entries, 3 absent.]

- 2832 I. (20s.)—C. N. GOODE, Peckfield Lodge, South Milford.
 2839 II. (10s.)—ROBERT STEPHENSON, Manor House, Burwell, Cambs.
 2831 III. (5s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington, Kent.
 2836 R. N. & H. C.—JOHN ROBINSON, Thorn Lea, Healds Green, Royton, Oldham.

Class 341.—White Wyandotte Hens. [7 entries, none absent.]

- 2841 I. (20s.)—C. N. GOODE, Peckfield Lodge, South Milford.
 2840 II. (10s.)—C. CLARK, Holly Bank, Heathfield.
 2843 III. (5s.)—THE REV. J. W. A. MACKENZIE, Whitwick Vicarage, Leicester.
 2844 R. N. & H. C.—C. G. MANNERS-SUTTON, Larkin Hall, Rochester.

Class 342.—White Wyandotte Cockerels. [10 entries, none absent.]

- 2850 I. (20s.), & 2851 II. (10s.)—C. N. GOODE, Peckfield Lodge, South Milford.
 2853 III. (5s.)—W. HEYDEN, Wyandotte Farm, Redruth.
 2854 R. N. & H. C.—SALVATION ARMY COLONY POULTRY FARM, Hadleigh, Essex.

Class 343.—White Wyandotte Pullets. [11 entries, 2 absent.]

- 2859 I. (20s.), & 2860 R. N. & H. C.—C. N. GOODE, Peckfield Lodge, South Milford.
 2862 II. (10s.), & 2863 III. (5s.)—W. HEYDEN, Wyandotte Farm, Redruth.

Class 344.—Partridge Wyandotte Cocks. [11 entries, 1 absent.]

- 2875 I. (20s.)—JOHN WHARTON, Honeycott Farm, Hawes, Yorks.
 2868 II. (10s.)—MISSES ASHMALL & COOPER, Shenstone Court, Lichfield.
 2871 III. (5s.)—R. H. LINGWOOD, Riverside Poultry Yards, Needham Market.
 2874 R. N. & H. C.—RICHARD WATSON, Thorn Garth, Thackley, Bradford.

Class 345.—Partridge Wyandotte Hens. [10 entries, 1 absent.]

- 2883 I. (20s.), & 2885 R. N. & H. C.—RICHARD WATSON, Thorn Garth, Thackley.
 2888 II. (10s.), & 2887 III. (5s.)—HUBERT WRIGHT, Mayfield, Keighley.

Class 346.—Partridge Wyandotte Cockerels. [9 entries, 2 absent.]

- 2896 I. (20s.)—HUBERT WRIGHT, Mayfield, Keighley.
 2893 II. (10s.), & 2894 III. (5s.)—JOHN WHARTON, Honeycott Farm, Hawes, Yorks.
 2891 R. N. & H. C.—R. H. LINGWOOD, Riverside Poultry Yards, Needham Market.

Class 347.—Partridge Wyandotte Pullets. [10 entries, 1 absent.]

- 2903 I. (20s.), 2904 II. (10s.), & 2905 III. (5s.)—JOHN WHARTON, Honeycott Farm, Hawes.
 2907 R. N. & H. C.—HUBERT WRIGHT, Mayfield, Keighley.

Class 348.—Wyandotte Cocks or Cockerels, any other variety.

[14 entries, 1 absent.]

- 2909 I. (20s.)—RICHARD CAPE, The Blands, Wennington, Lancaster. (Silver pencilled.)
 2914 II. (10s.)—THE REV. J. W. A. MACKENZIE, Whitwick Vicarage, Leicester. (Black.)
 2920 III. (5s.)—MRS. JOHN C. STRAKER, The Leazes, Hexham. (Buff laced.)
 2915 R. N. & H. C.—THE REV. J. W. A. MACKENZIE. (Columbian.)

Class 349.—Wyandotte Hens or Pullets, any other variety.

[11 entries, none absent.]

- 2930 I. (20s.)—EDWARD SHAW, Leylands, South Road, Morecambe. (Black.)
 2929 II. (10s.)—HERBERT ROBINS, Green Street Green, Dartford. (Columbian.)
 2925 III. (5s.)—RICHARD CAPE, The Blands, Wennington, Lancaster. (Black.)
 2931 R. N. & H. C.—JOHN WHARTON, Honeycott Farm, Hawes. (Silver Pencilled.)

Orpingtons.

Class 350.—Buff Orpington Cocks. [21 entries, 3 absent.]

- 2933 I. (20s.)—FRANK BLOOMER, Foxcote, Stourbridge.
 2942 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 2946 III. (5s.)—M. & W. MULCASTER, Whinbloom, Seaton, Workington.
 2939 R. N. & H. C.—W. H. COOK, Model Poultry Farm, St. Paul's Cray.

Class 351.—*Buff Orpington Hens*. [7 entries, 1 absent.]

- 2958 I. (20s.)—THE REV. J. B. NODDER, Ashover Rectory, Chesterfield.
 2954 II. (10s.)—FRANK BLOOMER, Foxcote, Stourbridge.
 2955 III. (5s.)—RICHARD CAPE, The Blands, Wennington, Lancaster.

Class 352.—*Buff Orpington Cockerels*. [17 entries, 5 absent.]

- 2961 I. (20s.)—RICHARD CAPE, The Blands, Wennington, Lancaster.
 2968 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington, Kent.
 2963 III. (5s.)—MISS S. DE M. CAREY, Toynton, Spilsby.
 2976 R. N. & H. C.—JAMES TURNER, Bentham Poultry Farm, Bentham.

Class 353.—*Buff Orpington Pullets*. [16 entries, 1 absent.]

- 2992 I. (20s.), 2991 II. (10s.), & 2990 R. N. & H. C.—JAMES TURNER, Bentham Poultry Farm, Bentham, Lancs.
 2982 III. (5s.)—GREATOREX & CHAWNER, 125 Low Road, Clowne, Chesterfield.

Class 354.—*White Orpington Cocks*. [9 entries, 2 absent.]

- 2994 I. (20s., R. N. for Special,¹ & Ring.²)—W. M. BELL, St. Leonard's Poultry Farm Ringwood.
 2996 II. (10s., & R. N. for Ring.²)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington
 3001 III. (5s.)—E. W. REYNOLDS, Massey Hall, Thelwall, Warrington.
 2998 R. N. & H. C.—THE REV. J. B. NODDER, Ashover Rectory, Chesterfield.

Class 355.—*White Orpington Hens*. [8 entries, none absent.]

- 3003 I. (20s., Medal,³ & R. N. for Champion.⁴)—W. M. BELL, St. Leonard's Poultry Farm, Ringwood.
 3004 II. (10s.)—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3006 III. (5s.)—MRS. H. V. HEBER-PERCY, Leasingham Rectory, Sleaford.
 3008 R. N. & H. C.—THE REV. J. B. NODDER, Ashover Rectory, Chesterfield.

Class 356.—*White Orpington Cockerels*. [8 entries, none absent.]

- 3016 I. (20s.), & 3015 III. (5s.)—THE REV. J. B. NODDER, Ashover Rectory, Chesterfield.
 3012 II. (10s.)—MISS S. A. CHEETHAM, The Hawthorns, Brighouse.
 3017 R. N. & H. C.—E. W. REYNOLDS, Massey Hall, Thelwall, Warrington.

Class 357.—*White Orpington Pullets*. [10 entries, 1 absent.]

- 3019 I. (20s.)—W. M. BELL, St. Leonard's Poultry Farm, Ringwood.
 3025 II. (10s.)—THE REV. J. B. NODDER, Ashover Rectory, Chesterfield.
 3023 III. (5s.)—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3022 R. N. & H. C.—MISS S. A. CHEETHAM, The Hawthorns, Brighouse.

Class 358.—*Black Orpington Cocks*. [14 entries, 1 absent.]

- 3033 I. (20s.), & 3035 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 3029 III. (5s.)—O. F. BATES, Harlow Court, Harrogate.
 3041 R. N. & H. C.—LADY ALICE STANLEY, Cowarth Park, Sunningdale.

Class 359.—*Black Orpington Hens*. [9 entries, none absent.]

- 3045 I. (20s.)—FRANK BLOOMER, Foxcote, Stourbridge.
 3047 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 3043 III. (5s.)—O. F. BATES, Harlow Court, Harrogate.
 3051 R. N. & H. C.—T. B. TYSON, 18 Inkerman Terrace, Whitehaven.

Class 360.—*Black Orpington Cockerels*. [10 entries, 1 absent.]

- 3061 I. (20s.)—T. B. TYSON, 18 Inkerman Terrace, Whitehaven.
 3054 II. (10s.)—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3057 III. (5s.)—HENRY RUSTON, Vine House, Chatteris.
 3055 R. N. & H. C.—LAURENCE CURRIE, Minley Manor, Farnborough.

Class 361.—*Black Orpington Pullets*. [10 entries, none absent.]

- 3069 I. (20s.)—LADY ALICE STANLEY, Cowarth Park, Sunningdale.
 3068 II. (10s.)—HENRY RUSTON, Vine House, Chatteris.
 3064 III. (5s.)—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3066 R. N. & H. C.—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.

¹ Special Prize of 20s. given for the best Bird in Classes 328-376.

² Silver Serviette Ring given by the Variety Orpington Club for the best White Orpington in Classes 354-357.

³ Silver Medal given by the Poultry Club, for Members of that Club only, for the best Female Bird in the Show.

⁴ Challenge Cup, value £10 10s., given by the Poultry Club, for Members of that Club only, for the best Bird in the Show; the Cup to become the absolute property of an Exhibitor winning it three times.

Award of Poultry Prizes at Newcastle, 1908. exiii

Class 362.—*Jubilee Orpington Cocks or Cockerels.* [4 entries.]

- 3072 I. (20s., *Champion*,¹ & *Ring*²).—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3073 II. (10s.), 3075 III. (5s.), & 3074 R. N. & H. C.—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.

Class 363.—*Jubilee Orpington Hens or Pullets.* [9 entries, none absent.]

- 3076 I. (20s., R. N. for *Champion*,¹ & R. N. for *Ring*.²)—W. H. COOK, Model Poultry Farm, St. Paul's Cray.
 3078 II. (10s.), & 3080 R. N. & H. C.—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 3077 III. (5s.)—LAURENCE CURRIE, Minley Manor, Farnborough.

Class 364.—*Spangled Orpington Cocks or Cockerels.* [7 entries, none absent.]

- 3088 I. (20s., & R. N. for *Ring* ³), & 3089 R. N. & H. C.—JOHN HORN, Fairmead, High Beach, Essex.
 3086 II. (10s.), & 3087 III. (5s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.

Class 365.—*Spangled Orpington Hens or Pullets.* [6 entries, none absent.]

- 3093 I. (20s., & *Ring* ³), & 3092 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 3097 III. (5s.)—ERNEST WILKINS, Cold Norton Farm, Kidmore End, Reading.
 3096 R. N. & H. C.—JOSEPH PETTIPHER, Woodway House, Banbury.

Minorcas.

Class 366.—*Minorca Cocks.* [8 entries, 2 absent.]

- 3105 I. (20s.)—A. G. PITTS, Highbridge, Somerset.
 3101 II. (10s.)—ROBERT MITCHELL, Fowler Farm, Mauchline, N.B.
 3104 III. (5s.)—HENRY PINCHBECK, The Elms, Burton-on-Trent.
 3099 R. N. & H. C.—M. HINSON, Fairfield, Stockton-on-Tees.

Class 367.—*Minorca Hens.* [6 entries, none absent.]

- 3111 I. (20s.)—A. G. PITTS, Highbridge, Somerset.
 3109 II. (10s.), & 3110 III. (5s.)—M. HINSON, Fairfield, Stockton-on-Tees.
 3106 R. N. & H. C.—B. W. BONAS, Measham, Atherstone.

Class 368.—*Minorca Cockerels.* [3 entries.]

- 3113 I. (20s.), & 3112 II. (10s.)—TENNYSON FAWKES, Royal Stock Farm, Leonard Stanley, Stonehouse.
 3114 III. (5s.)—A. G. PITTS, Highbridge, Somerset.

Class 369.—*Minorca Pullets.* [5 entries, none absent.]

- 3116 I. (20s.), & 3117 II. (10s.)—TENNYSON FAWKES, Royal Stock Farm, Leonard Stanley, Stonehouse.
 3118 III. (5s.)—G. T. KENWORTHY, Broadgate House, Horsforth, Leeds.
 3119 R. N. & H. C.—G. L. WARD, Woodside Poultry Farm, Eversholt, Woburn.

Leghorns.

Class 370.—*White Leghorn Cocks or Cockerels.* [4 entries.]

- 3123 I. (20s.)—J. READER, Leghorn House, Eseriek.
 3120 II. (10s.)—J. H. GILBERT, Cowton, *via* Northallerton.
 3121 III. (5s.)—G. T. KENWORTHY, Broadgate House, Horsforth, Leeds.
 3122 R. N. & H. C.—C. G. MANNERS-SUTTON, Larkin Hall, Rochester.

Class 371.—*White Leghorn Hens or Pullets.* [10 entries, none absent.]

- 3132 I. (20s.)—GEORGE SPRINGETT, Dalton-le-Dale, Murton, co. Durham.
 3125 II. (10s.)—J. H. GILBERT, Cowton, *via* Northallerton.
 3126 III. (5s.)—WILLIAM JOBSON, 18 Double Row, Cowpen Colliery, Blyth.

Class 372.—*Black Leghorn Cocks or Cockerels.* [3 entries.]

- 3135 I. (20s.)—SMITH HARRISON, 64 Keighley Road, Colne.
 3136 II. (10s.)—RICHARD RODWELL, 53 Vale Street, Nelson.
 3134 III. (5s.)—G. T. BROWN, River View, Kirkby Stephen.

¹ Silver Medal given through the Variety Orpington Club for the best Jubilee Orpington in Classes 362 and 363.

² Silver Serviette Ring given by the Variety Orpington Club for the best Jubilee Orpington in Classes 362 and 363.

³ Silver Serviette Ring given by the Variety Orpington Club for the best Spangled Orpington in Classes 364 and 365.

Class 373.—Black Leghorn Hens or Pullets. [5 entries, 1 absent.]

- 3138 I. (20s.), & 3139 III. (5s.)—JOHN HURST, South Terrace, Glossop.
 3140 II. (10s.)—RICHARD RODWELL, 53 Vale Street, Nelson.
 3137 R. N. & H. C.—G. T. BROWN, River View, Kirkby Stephen.

Class 374.—Leghorn Cocks or Cockerels, any other colour. [5 entries, 1 absent.]

- 3145 I. (20s.)—GEORGE SPRINGETT, Dalton-le-Dale, Murton, co. Durham. (Brown.)
 3144 II. (10s.)—E. LL. SIMON, Pembroke. (Brown.)
 3142 III. (5s.)—R. CHIPPENDALE, Hampson Green, Ellet, Lancaster. (Buff.)
 3146 R. N. & H. C.—STANBURY BROS., Haddon House, Paignton. (Brown.)

Class 375.—Leghorn Hens or Pullets, any other colour. [8 entries, 2 absent.]

- 3154 I. (20s.)—L. C. VERREY, The Warren, Oxshott. (Brown.)
 3147 II. (10s.)—R. CHIPPENDALE, Hampson Green, Ellet, Lancaster. (Buff.)
 3148 III. (5s.)—E. DENYER, Walton Road, East Molesey.
 3152 R. N. & H. C.—J. W. MORTON, Upper Park House, Low Moor, Bradford. (Brown.)

Andalusians.

Class 376.—Andalusian Cocks, Cockerels, Hens or Pullets. [2 entries.]

- 3155 I. (20s.)—MISS R. B. BABCOCK, Rimington, Clitheroe.
 3156 II. (10s.)—ROBERT LITTLE, JUN., Rokeby Cottage, Glossop,

Dorkings.

Class 377.—Coloured Dorking Cocks. [8 entries, 1 absent.]

- 3157 I. (20s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 3159 II. (10s.)—THE COUNTESS OF HOME, The Hirsell, Coldstream.
 3164 III. (5s.)—HERBERT REEVES, Emsworth, Hants.
 3160 R. N. & H. C.—ARTHUR C. MAJOR, Ditton, Langley, Bucks.

Class 378.—Coloured Dorking Hens. [5 entries, 1 absent.]

- 3166 I. (20s.), & 3167 III. (5s.)—ARTHUR C. MAJOR, Ditton, Langley, Bucks.
 3165 II. (10s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.

Class 379.—Coloured Dorking Cockerels. [8 entries, 2 absent.]

- 3170 I. (20s.) & 3171 II. (10s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.
 3174 III. (5s.), & 3175 R. N. & H. C.—J. T. PROUD, Dellwood, Bishop Auckland.

Class 380.—Coloured Dorking Pullets. [8 entries, none absent.]

- 3180 I. (20s.)—ARTHUR C. MAJOR, Ditton, Langley, Bucks.
 3179 II. (10s.)—RICHARD ARMSTRONG, Crown Hotel, High Street, Garstang.
 3183 III. (5s.)—HERBERT REEVES, Emsworth, Hants.
 3178 R. N. & H. C.—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour.

Class 381.—Dorking Cocks, any other variety. [4 entries.]

- 3189 I. (20s.), & 3188 R. N. & H. C.—HERBERT REEVES, Emsworth, Hants. (Silver.)
 3186 II. (10s.), & 3187 III. (5s.)—ARTHUR C. MAJOR, Ditton, Langley, Bucks. (Silver.)

Class 382.—Dorking Hens, any other variety. [3 entries, none absent.]

- 3190 I. (20s.), & 3191 II. (10s.)—ARTHUR C. MAJOR, Ditton, Langley, Bucks. (Silver.)

Class 383.—Dorking Cockerels, any other variety. [6 entries, none absent.]

- 3193 I. (20s.), & 3194 II. (10s.)—CHARLES AITKENHEAD, Seaham Harbour. (Silver.)
 3196 III. (5s.)—HERBERT REEVES, Emsworth, Hants. (Silver.)

Class 384.—Dorking Pullets, any other variety. [6 entries, 1 absent.]

- 3201 I. (20s.)—ARTHUR C. MAJOR, Ditton, Langley, Bucks. (Silver.)
 3204 II. (10s.), & 3203 R. N. & H. C.—HERBERT REEVES, Emsworth, Hants. (Silver.)
 3199 III. (5s.)—CHARLES AITKENHEAD, Stud Farm, Seaham Harbour. (Silver.)

Sussex.

Class 385.—Sussex Cocks, any variety. [13 entries, 2 absent.]

- 3207 I. (20s.)—S. R. CREE, Hellingley Poultry Farm, Dicker, Hellingley, Sussex.
 3215 II. (10s.)—W. S. TUCKER, Southover, Lewes.
 3211 III. (5s.)—THOMAS G. READ, Hill Crest, Heathfield. (Speckled.)
 3214 R. N. & H. C.—MRS. GEORGE TROTTER, Storrington, Pulborough. (Speckled.)

Class 386.—Sussex Hens, any variety. [8 entries, none absent.]

- 3225 I. (20s.)—COL. E. WALKER, Woodnorton, Mayfield. (Light.)
 3219 II. (10s.)—S. R. CREE, Dicker, Hellingley, Sussex. (Speckled.)
 3218 III. (5s.)—MRS. ROLAND BURKE, Normanby, Doncaster. (Light.)
 3224 R. N. & H. C.—MRS. GEORGE TROTTER, Storrington, Pulborough. (Speckled.)

Class 387.—*Sussex Cockerels, any variety.* [11 entries, 1 absent.]

- 3231 I. (20s.)—THE REV. C. R. MARTYN, The White House, Dordon, Tamworth.
 3229 II. (10s.)—ART. C. GILBERT, Swanley Poultry Farm, Wilmington.
 3230 III. (5s.)—J. P. HOWARD, Glynde Mill, Glynde, Lewes. (Red.)
 3236 R. N. & H. C.—FRANK A. WALLING, 7 Cavendish Cottages, Eastbourne.

Class 388.—*Sussex Pullets, any variety.* [10 entries, 2 absent.]

- 3246 I. (20s.)—COL. E. WALKER, Woodnorton, Mayfield. (Light.)
 3245 II. (10s.)—W. S. TUCKER, Southover, Lewes.
 3237 III. (5s.)—JOHN BAILY & SON, 116 Mount Street, London, W.
 3244 R. N. & H. C.—MRS. GEORGE TROTTER, Storrington, Pulborough. (Speckled.)

Brahmas and Cochins.

Class 389.—*Brahma Cocks or Cockerels.* [6 entries, 1 absent.]

- 3248 I. (20s.)—G. W. HENSHALL, Urmston, Manchester.
 3251 II. (10s.)—S. J. SOUTHON, 7 Bridge Street, Southampton.
 3249 III. (5s.)—THE COUNTESS OF KINTORE, Inglismaldie, Laurencekirk.
 3250 R. N. & H. C.—R. H. LINGWOOD, Riverside Poultry Yards, Needham Market.

Class 390.—*Brahma Hens or Pullets.* [4 entries, 1 absent.]

- 3254 I. (20s.)—SIDNEY FLETCHER, 247 Osmaston Road, Derby.
 3256 II. (10s.), & 3255 III. (5s.)—J. M. LONGE, Chillesford Lodge, Orford, Suffolk.

Class 391.—*Cochin Cocks or Cockerels.* [6 entries, none absent.]

- 3261 I. (20s., & Special,¹ Medal,² & Champion³), & 3262 II. (10s.)—G. H. PROCTER, Flass House, Durham.
 3258 III. (5s.), & 3257 R. N. & H. C.—R. H. LINGWOOD, Riverside Poultry Yards, Needham Market.

Class 392.—*Cochin Hens or Pullets.* [5 entries, none absent.]

- 3266 I. (20s., & R. N. for Special,¹ & R. N. for Medal⁴), & 3267 II. (10s.)—G. H. PROCTER, Flass House, Durham.
 3263 III. (5s.)—R. H. LINGWOOD, Riverside Poultry Yards, Needham Market.
 3265 R. N. & H. C.—LADY MARJORIBANKS, Lees, Coldstream.

Hamburghs.

Class 393.—*Hamburgh Cocks or Cockerels, any colour.* [5 entries, none absent.]

- 3271 I. (20s.), & 3270 III. (5s.)—HENRY PICKLES, Kayfield House, Earby, Colne.
 3268 II. (10s.)—HARRY FORTUNE, Banklands, Silsden, Keighley.
 3272 R. N. & H. C.—F. E. THOMAS, George House, George Hill, Llandilo.

Class 394.—*Hamburgh Hens or Pullets, any colour.* [4 entries.]

- 3276 I. (20s.), & 3275 II. (10s.)—HENRY PICKLES, Kayfield House, Earby, Colne.
 3274 III. (5s.)—THE COUNTESS OF HOME, The Hirsell, Coldstream. (Black.)
 3273 R. N. & H. C.—JOSEPH GRAHAM, Hard Edge, Nenthead, Alston. (Silver.)

Campines.

Class 395.—*Campine Cocks or Cockerels.* [6 entries, 1 absent.]

- 3280 I. (20s., & R. N. for Champion⁵), & 3279 III. (5s.)—GEORGE REISS, 15 Market Place, Kendal.
 3282 II. (10s.)—W. J. SARJENT, Armour Lodge, Tilehurst, Reading.
 3278 R. N. & H. C.—THE REV. E. LEWIS JONES, Heyope Rectory, Knighton.

Class 396.—*Campine Hens or Pullets.* [7 entries, none absent.]

- 3283 I. (20s., & Champion⁵)—DR. S. E. DUNKIN, 68 Studley Road, Clapham, S.W.
 3289 II. (10s.), & 3288 III. (5s.)—W. J. SARJENT, Armour Lodge, Tilehurst, Reading.
 3284 R. N. & H. C.—RICHARD EDWARDS, JUN., Staunton Old Court, Staunton-on-Arrow.

¹ Special Prize of 20s. given for the best Bird in Classes 377-400.

² Silver Medal given by the Poultry Club, for Members of that Club only, for the best Male Bird in the Show.

³ Challenge Cup, value £10 10s., given by the Poultry Club, for Members of that Club only, for the best Bird in the Show; the Cup to become the absolute property of an Exhibitor winning it three times.

⁴ Silver Medal given by the Poultry Club, for Members of that Club only, for the best Female Bird in the Show.

⁵ Silver Medal given by the Campine Club for the best Campine in Classes 395 and 396.

French.

Class 397.—*Faverolle Cocks or Cockerels.* [6 entries, none absent.]

- 3290 I. (20s.)—MRS. GEORGE BETTS, Coombe Poultry Farm, East Grinstead.
 3293 II. (10s.), & 3294 III. (5s.)—T. H. JONES-PARRY, Statham Poultry Yards Warrington.
 3295 R. N. & H. C.—MRS. JOHN C. STRAKER, The Leazes, Hexham.

Class 398.—*Faverolle Hens or Pullets.* [6 entries, none absent.]

- 3296 I. (20s.)—MRS. GEORGE BETTS, Coombe Poultry Farm, East Grinstead.
 3297 II. (10s.)—C. H. BRADLEY, Drivers Farm, Tibberton, Glos.
 3298 III. (5s.)—T. H. JONES-PARRY, Statham Poultry Yards, Warrington.
 3301 R. N. & H. C.—MRS. JOHN C. STRAKER, The Leazes, Hexham.

Class 399.—*French Cocks or Cockerels, any other variety.*
 [8 entries, none absent.]

- 3303 I. (20s.)—HENRY EDYE, South Binns, Heathfield. (Houdan.)
 3305 II. (10s.)—JAMES KEENLEYSIDE, Wooley Burn Foot, Allendale. (Houdan.)
 3306 III. (5s.)—PHILIP LEE, Wem, Salop. (La Flèche.)
 3307 R. N. & H. C.—J. W. MOORE, Oakerland Farm, Hexham. (Houdan.)

Class 400.—*French Hens or Pullets, any other variety.*
 [7 entries, none absent.]

- 3311 I. (20s.), & 3310 R. N. & H. C.—HENRY EDYE, South Binns, Heathfield. (Houdan.)
 3312 II. (10s.)—MESDAMES HILL & MACONCHIE, Tovil House, Maidstone. (Houdan.)
 3314 III. (5s.)—MRS. H. LACEY, Bay Tree House, Waltham Cross. (Houdan.)

Table Fowls.

Class 401.—*Pairs of Cockerels or Pullets, pure-breed.* [5 entries, none absent.]

- 3319 I. (20s.), & 3318 R. N. & H. C.—J. T. PROUD, Dellwood, Bishop Auckland. (Coloured Dorking.)
 3321 II. (10s.)—MRS. BRUCE WARD, Westwood Park, Droitwich. (White Orpington Pullets.)
 3320 III. (5s.)—HERBERT REEVES, Emsworth, Hants. (Coloured Dorking Pullets.)

Class 402.—*Pairs of Cockerels or Pullets, cross-breed.* [16 entries, 1 absent.]

- 3327 I. (20s.)—W. G. HICKS, Treven, South Hill, Callington. (Indian Game and Dark Dorking Pullets.)
 3323 II. (10s.), & 3322 R. N. & H. C. LAURENCE CURRIE, Minley Manor, Farnborough (Indian Game and Dorking.)
 3331 III. (5s.)—MRS. T. H. NELSON, Stainwells, Sturton-by-Scawley, Lincoln. (Indian Game and Buff Orpington Pullets.)

DUCKS.

Aylesbury.

Class 403.—*Aylesbury Drakes or Young Drakes.* [4 entries, 1 absent.]

- 3338 I. (20s.), & 3339 II. (10s.)—THE COUNTESS OF HOME, The Hirsal, Coldstream.
 3341 III. (5s.)—J. Y. WHEATLEY, Appleton Roebuck, Bolton Percy.

Class 404.—*Aylesbury Ducks or Ducklings.* [4 entries.]

- 3342 I. (20s.), & 3343 III. (5s.)—THE COUNTESS OF HOME, The Hirsal, Coldstream.
 3345 II. (10s.)—J. Y. WHEATLEY, Appleton Roebuck, Bolton Percy.
 3344 R. N. & H. C.—A. E. REYNOLDS, Aylesbury Duck Farm, Braunston, Rugby.

Rouen.

Class 405.—*Rouen Drakes or Young Drakes.* [4 entries, 1 absent.]

- 3347 I. (20s.)—THE COUNTESS OF HOME, The Hirsal, Coldstream.
 3349 II. (10s.)—THE REV. ISAAC WALTON, Newbiggin Rectory, Carlisle.
 3346 III. (5s.)—WILLIAM BYGOTT, Ryehill House, Wing, Oakham.

Class 406.—*Rouen Ducks or Ducklings.* [3 entries.]

- 3350 I. (20s.)—WILLIAM BYGOTT, Ryehill House, Wing, Oakham.
 3351 II. (10s.)—THE COUNTESS OF HOME, The Hirsal Coldstream.
 3352 III. (5s.)—HOWARD PEASE, Otterburn Tower, Otterburn.

Indian Runners.

Class 407.—*Indian Runner Drakes or Young Drakes.*

[6 entries, none absent.]

- 3354 I. (20s.), & 3353 II. (10s.)—W. G. KINGWELL, Great Aish, South Brent.
3357 III. (5s.), & 3356 R. N. & H. C.—J. W. WALTON, High Street, Tow Law.

Class 408.—*Indian Runner Ducks or Ducklings.* [6 entries, none absent.]

- 3362 I. (20s.)—J. W. WALTON, High Street, Tow Law.
3360 II. (10s.), & 3359 III. (5s.)—W. G. KINGWELL, Great Aish, South Brent.
3361 R. N. & H. C.—RICHARD STUART, Brook Vale, Sowerby, Garstang.

Any Other Breed.

Class 409.—*Drakes or Young Drakes.* [1 entry.]

- 3365 I. (20s.)—THE COUNTESS OF HOME, The Hirsell, Coldstream. (Pekin.)

Class 410.—*Ducks or Ducklings.* [1 entry.]

- 3366 II. (10s.)—THE COUNTESS OF HOME, The Hirsell, Coldstream. (Pekin.)

GEESE.

Embdens.

Class 411.—*Embden Ganders.* [4 entries.]

- 3368 I. (30s.)—WILLIAM BYGOTT, Ryehill House, Wing, Oakham.
3370 II. (20s.)—WILLIAM WOODS, Worksop.
3369 III. (10s.)—A. H. FOX-BROCKBANK, The Croft, Kirksanton.
3367 R. N. & H. C.—RICHARD BOOTH, Warlaby, Northallerton.

Class 412.—*Embden Geese.* [4 entries.]

- 3374 I. (30s.)—WILLIAM WOODS, Worksop.
3372 II. (20s.)—WILLIAM BYGOTT, Ryehill House, Wing, Oakham.
3371 III. (10s.)—RICHARD BOOTH, Warlaby, Northallerton.
3373 R. N. & H. C.—A. H. FOX-BROCKBANK, The Croft, Kirksanton.

Toulouse.

Class 413.—*Toulouse Ganders.* [5 entries, 1 absent.]

- 3377 I. (30s.)—FRED HUTCHINSON, Clover Hill Farm, Sealing, Loftus.
3379 II. (20s.)—WILLIAM WOODS, Worksop.
3375 III. (10s.)—THOMAS ALTHAM, Clifton Arms, Little Marton, Blackpool.
3378 R. N. & H. C.—J. Y. WHEATLEY, Appleton Roebuck, Bolton Percy.

Class 414.—*Toulouse Geese.* [3 entries.]

- 3382 I. (30s.)—WILLIAM WOODS, Worksop.
3381 II. (20s.)—J. Y. WHEATLEY, Appleton Roebuck, Bolton Percy.
3380 III. (10s.)—WILLIAM BYGOTT, Ryehill House, Wing, Oakham.

TURKEYS.

Class 415.—*Turkey Cocks.* [2 entries, 1 absent.]

- 3383 II. (20s.)—M. C. APPELYARD, Ixworth, Suffolk. (Mammoth Bronze.)

Class 416.—*Turkey Hens.* [3 entries, 2 absent.]

- 3385 II. (20s.)—M. C. APPELYARD, Ixworth, Suffolk. (Mammoth Bronze.)

FARM AND DAIRY PRODUCE OF THE UNITED KINGDOM.

Butter.

Class 417.—*Bores of Twelve 2-lb. Rolls of Butter, made with not more than 1 per cent. of salt.* [9 entries, 3 absent.]

- 3390 I. (£4.)—MISS MARY A. DALRYMPLE, Elliston, St. Boswells.
3395 II. (£2.)—MISS MABEL G. PRIDEAUX, The Grange, Motcombe, Dorset.

Class 418.—*Two Pounds Fresh Butter, slightly salted, made up in Pounds.*
[70 entries, 6 absent.]

- 3427 (£2, & Champion.¹)—MRS. HOLLIDAY, Wood End Farm, Streatham, Darlington.
 3429 (£2.)—JAMES HUNTER, The Dairy, Wiseton, Bawtry.
 3447 (£2, & R. N. for Champion.¹)—MISS H. J. PEARSON, Look Out, Alnwick.
 3453 (£2.)—VISCOUNT RIDLEY, Blagdon Hall, Cramlington.
 3400 (£1.)—MISS JANE CRAWFORD, Hatcheugh, Alnwick.
 3448 (£1.)—MRS. L. R. MILDON, Higher Mead Down, Rickenford, Morchard Bishop
 3456 (£1.)—THE DUKE OF ROXBURGHE, Floors Castle, Kelso.
 3466 (£1.)—THE WEST MARTON DAIRY CO., West Marton, Skipton-in-Craven.
 3418 (10s.)—MISS DOROTHY FORSTER, Marley Coat Halls, Staley, Hexham.
 3423 (10s.)—MRS. ANNIE HART, Bradley Hall Farm, Wylam-on-Tyne.
 3445 (10s.)—MISS M. E. ORD, Cavil Head, Acklington.
 3455 (10s.)—LORD ROTHSCHILD, Tring Park, Herts.
 3463 R. N. & H. C.—MISS URWIN, Dunskins, Wolsingham, Durham.

Cheese.

Made in 1908.

Class 419.—*Three Cheddar Cheeses, of not less than 50 lb. each.*
[15 entries, none absent.]

- 3479 I. (£5.)—HARRY TRAVERS, Middle Farm, Sutton, Ditchat, Bath.
 3472 II. (£3.)—P. H. FRANCIS, Place Dairy, Mappowder, Blandford.
 3476 III. (£2.)—N. J. SIMS, Pitcombe, Bruton, Somerset.
 3470 IV. (£1.)—CARY & PORTCH, Redlynch Park Farm, Bruton, Somerset.
 3481 R. N. & H. C.—ALBERT WHITE, West Lambrook, South Petherton, Somerset.

Class 420.—*Three Coloured Cheshire Cheeses, of not less than 40 lb. each.*
[20 entries, 3 absent.]

- 3492 I. (£4.)—JOSEPH JONES, New Farm, Dodleston, Chester.
 3495 II. (£3.)—CHARLES PRICE, Onston, Ellesmere, Salop.
 3500 III. (£1.)—R. P. WALLEY, Waverton, Chester.
 3493 R. N. & H. C.—CHARLES E. PARTON, Haughton Hall Farm, Tarporley.

Class 421.—*Three Uncoloured Cheshire Cheeses, of not less than 40 lb. each.*
[9 entries, 1 absent.]

- 3508 I. (£4.)—CHARLES PRICE, Onston, Ellesmere, Salop.
 3504 II. (£3.)—SAMUEL CHARLESWORTH, Red Hall, Leighton, Crewe.
 3502 III. (£1.)—JAMES BLAKE, Calveley Hall, Handley, Chester.
 3503 R. N. & H. C.—J. H. BOURNE, Hack House Farm, Baddington, Nantwich.

Class 422.—*Three Stilton Cheeses.* [10 entries, 1 absent.]

- 3519 I. (£4.) G. & H. WILKINSON, Granby, Nottingham.
 3514 II. (£3.)—ALBERT HULL Frisby House, Billesdon, Leicester.
 3513 III. (£1.)—JOSEPH HALL, Stathern, Melton Mowbray.
 3517 R. N. & H. C.—JOHN SMITH, Gaddesby, Leicester.

Class 423.—*Three Wensleydale Cheeses.* [11 entries, none absent.]

- 3521 I. (£4.)—JOSEPH CARTER, Low Applegarth, Richmond, Yorks.
 3530 II. (£3.)—MRS. WILLIS, The Manor House, Carperby, S.O., Yorks.
 3527 III. (£1.)—JOHN STUBBS, Swinethwaite, Leyburn.
 3529 R. N. & H. C.—E. G. WHITELOCK, The Bryn, Atlow, Ashbourne.

Class 424.—*Three Double Gloucester Cheeses.* [5 entries, none absent.]

- 3536 I. (£4.)—N. J. SIMS, Pitcombe, Bruton, Somerset.
 3535 II. (£3.)—FRANK PORTCH, Clapton, Cucklington, Wincanton.
 3533 III. (£1.)—HISCOCK & CO., Stourton Farm, Stourton, Bath.
 3534 R. N. & H. C.—THE PARWICH CREAMERY, Parwich, Ashbourne.

Class 425.—*Three Cotherstone Cheeses.* [3 entries.]

- 3538 I. (£4.)—MRS. MARY HOLLIDAY, Wood End Farm, Streatham, Darlington.
 3537 II. (£3.)—MRS. MARGARET HEWARD, Eastfield, Mickleton, Darlington.
 3539 III. (£1.)—THE WENSLEYDALE PURE MILK SOCIETY, LTD., Northallerton.

Class 426.—*Three Cleveland Cheeses.*² [10 entries, none absent.]

- 3549 I. (£3.)—RICHARD TYREMAN, Fryup Lodge, Lealholme, Grosmont.
 3548 II. (£2.)—D. A. SWALES, Applegarth Hall, Fryup, Lealholme, Grosmont.
 3543 III. (£1.)—MRS. S. E. GRAHAM, Stonegate, Lealholme, Grosmont.

¹ Silver Cup, value £10, specially given through the Newcastle Local Committee for Exhibitors resident in the Counties of Northumberland and Durham only, for the best Exhibit in Class 418.

² Prizes given by the Newcastle Local Committee.

Class 427.—Three Cheddar Truckle Cheeses. [12 entries, none absent.]

3558 I. (£3.)—N. J. SIMS, Pitcombe, Bruton, Somerset.

3559 II. (£2.)—W. C. SPENCER, Hellings Farm, Crewkerne, Somerset.

3552 III. (£1.)—CARY & PORTCH, Redlynch Park Farm, Bruton, Somerset.

3554 R. N. & H. C.—J. C. GREEN, Berkeley Farm, Norton Ferris, Kilmington, Wilts.

Cider and Perry.*N.B.—The names of the Fruits from which the Cider or Perry is stated by the Exhibitor to have been made are added after the address of the Exhibitor. In Classes 430 and 431 the date of making is also given.***Class 428.—Casks of Cider, of not less than 18, and not more than 30 gallons, made in the autumn of 1907.** [8 entries, none absent.]

3563 I. (£5.)—D. J. CROFTS & SON, Sutton Montis, Sparkford, Somerset. (Red and White Jersey, White Close Pippin, and Redstreak.)

3568 II. (£3.)—TILLEY BROS., Shepton Mallet. (Red and White Jersey, Dove, and Kingston Black.)

Class 429.—One Dozen Bottles of Cider, made in the autumn of 1907. [16 entries, none absent.]

3582 I. (£5.)—TILLEY BROS., Shepton Mallet. (Kingston Black, Chisel Black, and Horner.)

3584 II. (£3.)—TILLEY BROS. (White and Royal Jersey and Horner.)

3574 III. (£2.)—D. J. CROFTS & SON, Sutton Montis, Sparkford, Somerset. (Royal and White Jersey, Cadbury, and Kingston Black.)

3583 R. N. & H. C.—TILLEY BROS. (Dove, Kingston Black, and Royal Jersey.)

Class 430.—One Dozen Bottles of Cider, made in any year before 1907. [13 entries, none absent.]

3586 I. (£5.)—JOHN BAZLEY, The Bury, Stoke Prior, Leominster. (Fox Whelp and White Norman, 1905.)

3587 II. (£3.)—JOHN BAZLEY. (Mixed Fruit, 1906.)

3597 III. (£2.)—TILLEY BROS., Shepton Mallet. (White and Royal Jersey, Dove, and Kingston Black, 1906.)

3596 R. N. & H. C. TILLEY BROS. (Kingston Black, Horner, and Chisel Jersey, 1906.)

Class 431.—One Dozen Bottles of Perry. [6 entries, none absent.]

3601 I. (£5.)—JAMES SLATTERY & CO., Paxford, Campden, S.O., Glos. (Oldfield, 1907.)

3599 II. (£3.)—DANIEL PHELPS & SON, Tibberton, Gloucester. (Oldfield, 1905.)

3604 III. (£2.)—F. FF. WOODWARD & CO., Pershore. (Red Longdon, 1907.)

Wool.*Of 1908 Clip.***Class 432.—Three Fleeces of Leicester or Border Leicester Wool.**

[6 entries, none absent.]

3608 I. (£3.)—JOHN W. HARRISON, Underpark, Leatholme, Gosmont. (Leicester Gimmer Hogs.)

3605 II. (£2), 3607 III. (£1), & 3606 R. N. & H. C.—GEORGE HARRISON, Gainford Hall, Darlington. (Leicester Yearling Hogs.)

Class 433.—Three Fleeces of Lincoln Wool. [6 entries, none absent.]

3612 I. (£3.)—HENRY DUDDING, Riby Grove, Great Grimsby. (Hogs.)

3613 II. (£2.)—C. E. HOWARD, Nocton Rise, Lincoln. (Hogs.)

3616 III. (£1.)—W. B. SWALLOW, Wootton Lawn, Uleby. (Yearling Hogs.)

3614 R. N. & H. C.—GEORGE MARRIS, Kirmington, Brocklesby. (Yearling Hogs.)

Class 434.—Three Fleeces of Kent or Romney Marsh Wool.

[14 entries, 1 absent.]

3618 I. (£3), & 3617 III. (£1.)—CHARLES FILE, Elbam, Canterbury. (Yearling Ewes.)

3630 II. (£2.)—R. S. STROUTS, Lingleton, Great Chart, Ashford. (Yearling Ewe Tegs.)

3620 R. N. & H. C.—ARTHUR FINN, Westbroke House, Lydd. (Yearling Hogs.)

Class 435.—Three Fleeces of any other Long Wool. [9 entries, 2 absent.]

3632 I. (£3.)—LORD HENRY BENTINCK, Underley Hall, Kirkby Lonsdale. (Wensleydale Shearling Ewes.)

3638 II. (£2.)—THE EXORS. OF THE LATE THOMAS WILLIS, Carperby, S.O., Yorks. (Wensleydale Yearling Hogs.)

3634 III. (£1.)—ALFRED ROWNTREE, Field House, Kirkby Overblow, Pannal, S.O., Yorks. (Wensleydale Yearling Hogs.)

3631 R. N. & H. C.—LORD HENRY BENTINCK. (Wensleydale Hogs.)

Class 436.—*Three Fleeces of Southdown Wool.* [4 entries.]

- 3640 I. (£3), & 3641 II. (£2).—LORD CALTHORPE, Elvetham Park, Winchfield. (Yearling Tegs.)
3642 III. (£1.), & 3643 R. N. & H. C.—WILLIAM DOCKERAY, Park House, Westwell, Ashford. (Ewes.)

Class 437.—*Three Fleeces of Shropshire Wool.* [2 entries.]

- 3644 I. (£3), & 3645 II. (£2).—RICHARD BACH, White House, Onibury. (Yearling Hogs.)

Class 438.—*Three Fleeces of any other Short Wool.* [6 entries, none absent.]

- 3647 I. (£3), & 3648 R. N. & H. C.—W. R. FLOWER, West Stafford, Dorchester. (Dorset Horn Ewe Hoggets.)
3649 II. (£2).—E. A. HAMBRO, Delcombe Farm, Milton Abbey, Blandford. (Dorset Horn Yearling Hogs.)
3650 III. (£1).—H. W. TAYLOR, Showle Court, Ledbury. (Ryeland Yearling Hogs.)

Class 439.—*Three Fleeces of Welsh Wool.* [6 entries, none absent.]

- 3656 I. (£3).—MRS. WYNNE-FINCH, Voelas, Bettws-y-coed, North Wales.
3655 II. (£2), & 3654 III. (£1).—HENRY O. ELLIS, Tynhendre, Bangor. (Yearling Wethers.)

Class 440.—*Three Fleeces of Cheriote Wool.* [8 entries, none absent.]

- 3658 I. (£3).—ROBERT GRAHAM, Auchengassel, Twynholm. (Wethers.)
3662 II. (£2).—JACOB ROBSON, Byrness, Otterburn. (Yearling Hogs.)
3664 III. (£1).—ROBERT THORNTON, West Kielder, Kielder Station. (Two-Shear Wethers.)
3659 R. N. & H. C.—G. G. REA, Middleton, Wooler. (Shearling Ewe Hogs.)

Class 441.—*Three Fleeces of Scotch Wool.* [15 entries, 3 absent.]

- 3669 I. (£3), & 3668 II. (£2).—JOHN DARGUE, Burnside Hall, Kendal. (Ewes.)
3673 III. (£1).—ROBERT GRAHAM, Auchengassel, Twynholm. (Wethers.)
3672 R. N. & H. C.—WILLIAM JOHNSON GALLOWAY, Skaife Hall, Blubberhouses. (Yearling Ewe Hogs.)

HIVES, HONEY, AND BEE APPLIANCES.¹

Class 442.—*Collections of Hives and Appliances.* [4 entries.]

- 3682 I. (£4).—JAMES LEE & SON, 4 Martineau Road, Highbury, N.
3684 II. (£2).—E. H. TAYLOR, Welwyn, Herts.
3681 III. (£1).—W. DIXON, 5 Beckett Street, Leeds.

Class 443.—*Frame Hives, for general use, unpainted.* [8 entries.]

- 3686 I. (20s.), & 3685 III. (10s.).—ABBOTT BROS., Southall, Middlesex.
3687 II. (15s.), & 3688 R. N. & H. C.—JAMES LEE & SON, 4 Martineau Road, Highbury, N.

Class 444.—*Frame Hives, for Cottager's use, unpainted.* [5 entries.]

- 3695 I. (20s.).—JAMES LEE & SON, 4 Martineau Road, Highbury, N.
3697 II. (15s.).—E. H. TAYLOR, Welwyn, Herts.
3693 III. (10s.).—ABBOTT BROS., Southall, Middlesex.
3696 R. N. & H. C.—W. P. MEADOWS, Syston, Leicester.

Class 445.—*Honey Extractors.*² [4 entries.]

- 3698 I. (15s.), & 3699 II. (10s.).—W. P. MEADOWS, Syston, Leicester.

Class 446.—*Observatory Hives, with not less than three Frames, with Bees and Queen.* [4 entries.]

- 3702 I. (20s.).—W. DIXON, 5 Beckett Street, Leeds.
3703 II. (15s.).—JAMES LEE & SON, 4 Martineau Road, Highbury, N.

Class 447.—*Any appliance connected with Bee-keeping, to which no prize has been awarded at a Show of the R.A.S.E.* [8 entries.]

- 3710 I. (10s.), & 3709 Certificate of Merit.—W. P. MEADOWS, Syston, Leicester.
3707 Certificate of Merit, & 3706 R. N. & H. C.—ABBOTT BROS., Southall, Middlesex.

¹ Prizes given by the British Bee-keepers Association.

² Prizes given by Mr. T. W. Cowan.

Class 448.—*Comb Honey*.¹ [8 entries.]

- 3717 I. (20s.)—J. G. NICHOLSON, The Apiary, Langwathby, Cumberland.
 3719 II. (15s.)—A. W. WEATHERHOGG, Willoughton, *via* Lincoln.
 3719 III. (10s.)—JAMES PEARMAN, Penny Long Lane, Derby.

Class 449.—*Run or Extracted Light-coloured Honey*. [11 entries.]

- 3722 I. (20s.)—JOHN BERRY, The Apiary, Llanrwst, North Wales.
 3726 II. (15s.)—H. DILWORTH, Shangton, Kibworth, Leicester.
 3729 III. (10s.)—J. BOYES, Queen's Head Hotel, Cardiff.

Class 450.—*Run or Extracted Medium or Dark-coloured Honey*. [6 entries.]

- 3737 I. (20s.)—F. HARRIS, High Ferry, Sibsey, Boston, Lincs.
 3734 II. (15s.)—H. DILWORTH, Shangton, Kibworth, Leicester.
 3736 III. (10s.)—F. W. FRUSHER, Swiss Apiary, Crowland, Lincs.

Class 451.—*Granulated Honey*. [5 entries.]

- 3739 I. (20s.)—J. BOYES, Queen's Head Hotel, Cardiff.
 3742 II. (15s.)—W. PATCHETT, North Wold Apiary, Cabourne, Caistor.
 3743 III. (10s.)—A. W. WEATHERHOGG, Willoughton, *via* Lincoln.

Class 452.—*Comb Honey*.² [7 entries.]

- 3746 I. (20s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.
 3745 II. (15s.)—R. H. BAYNES, 51 Bridge Street, Cambridge.
 3749 III. (10s.)—CHARLES LODGE, High Easter, Chelmsford.

Class 453.—*Run or Extracted Light-coloured Honey*. [5 entries.]

- 3751 I. (20s.)—R. H. BAYNES, 51 Bridge Street, Cambridge.
 3752 II. (15s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.
 3753 III. (10s.)—S. G. S. LEIGH, Broughton, Hunts.

Class 454.—*Run or Extracted Medium or Dark-coloured Honey*. [5 entries.]

- 3757 I. (20s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.
 3761 II. (15s.)—E. C. R. WHITE, Newton Toney, Salisbury.
 3758 III. (10s.)—S. G. S. LEIGH, Broughton, Hunts.

Class 455.—*Granulated Honey*. [4 entries.]

- 3763 I. (20s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.
 3764 II. (15s.)—GEORGE DELLER, Chrishall Grange, Royston.
 3761 III. (10s.)—R. H. BAYNES, 51 Bridge Street, Cambridge.

Class 456.—*Frames of Comb Honey, for extracting*. [5 entries.]

- 3769 I. (20s.)—E. C. R. WHITE, Newton Toney, Salisbury.
 3767 II. (15s.)—CHARLES LODGE, High Easter, Chelmsford.

Class 457.—*Heather Honey*. [5 entries.]

- 3770 I. (20s.)—A. F. BORLAND, Glenbervie, Cumnock.
 3774 II. (15s.)—T. SLEIGHT, Danesmoor, Chesterfield.
 3772 III. (10s.)—W. DIXON, 5 Beckett Street, Leeds.

Class 458.—*Heather Mixture Extracted Honey*. [7 entries.]

- 3776 I. (20s.)—W. E. BROOKING, Marlborough, Kingsbridge, Devon.
 3777 II. (15s.)—W. DIXON, 5 Beckett Street, Leeds.
 3778 III. (10s.)—ROBERT GREEN, The Firs, Boroughbridge, Yorks.

Class 459.—*Best and Most Attractive Displays of Honey*. [4 entries.]

- 3784 I. (30s.)—W. DIXON, 5 Beckett Street, Leeds.
 3785 II. (20s.)—JAMES PEARMAN, Penny Long Lane, Derby.
 3782 III. (10s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.

Class 460.—*Exhibits of not less than 2 lb. of Wax, the Produce of the Exhibitor's Apiary*. [8 entries.]

- 3788 I. (10s.)—F. W. FRUSHER, Swiss Apiary, Crowland, Lincs.
 3793 II. (7s. 6d.)—E. C. R. WHITE, Newton Toney, Salisbury.
 3787 III. (5s.)—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.
 3791 R. N. & H. C.—JAMES PEARMAN, Penny Long Lane, Derby.

¹ Entries in Classes 448-451 can only be made by residents in Cheshire, Cumberland, Derbyshire, Durham, Herefordshire, Lancashire, Leicestershire, Lincolnshire, Monmouthshire, Northumberland, Nottinghamshire, Rutland, Shropshire, Staffordshire, Warwickshire, Westmorland, Worcestershire, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.

² Entries in Classes 452-456 can only be made by residents in Bedfordshire, Berkshire, Bucks, Cambridgeshire, Cornwall, Devon, Dorset, Essex, Gloucestershire, Hampshire, Herts, Hunts, Isle of Wight, Kent, Middlesex, Norfolk, Northamptonshire, Oxfordshire, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

Class 461.—*Exhibits of not less than 3 lb. of Wax, the Produce of the Exhibitor's Apiary.* [6 entries.]

- 3797 I. (10s.)—JAMES PEARMAN, Penny Long Lane, Derby.
 3799 II. (7s. 6d.)—E. C. R. WHITE, Newton Toney, Salisbury.
 3796 III. (5s.)—F. W. FRUSHER, Swiss Apiary, Crowland, Lincs.
 3794 R. N. & H. C.—R. H. BAYNES, 51 Bridge Street, Cambridge.

Class 462.—*Quarts of Honey Vinegar.* [1 entry.]

- 3800 I. (7s. 6d.)—JAMES PEARMAN, Penny Long Lane, Derby.

Class 463.—*Quarts of Mead.* [1 entry.]

- 3801 Certificate of Merit.—R. BROWN & SON, Flora Apiaries, Somersham, Hunts.

Class 464.—*Exhibits of a practical or interesting nature connected with Bee-culture, not mentioned in the foregoing Classes.* [2 entries.]

- 3803 I. (10s.)—G. HEINREICH, Sonnenburg, Neun.
 3802 Certificate of Merit.—W. DIXON, 5 Beckett Street, Leeds.

Class 465.—*Exhibits of a scientific nature, not mentioned in the foregoing Classes, to which no prize has been awarded at a Show of the R.A.S.E.*

[No entry.]

HORSE-SHOEING COMPETITIONS.

Class 1.—*Hunters.* [48 entries, none absent.]

- 23 I. (£3 10s.)—GEORGE IBBOTSON, R.S.S., Redlands Park Road, Caterham.
 17 II. (£3, & S. M.¹)—THOMAS ALFRED ELAM, R.S.S., Mill Lane, Brighouse.
 11 III. (£2 10s., & B. M.²)—GEORGE DEIGHTON, R.S.S., East Parade, Harrogate.
 24 IV. (£2.)—HARRY JONES, R.S.S., The Forge, St. Arvans, Chepstow.
 33 V. (£1 10s.)—JOHN CHARLES MORRIS, R.S.S., Henley-in-Arden.
 47 VI. (£1.)—HARRY WILKINSON, R.S.S., 36 Town Street, Chapel Allerton, Leeds.
 32 R. N. & H. C.—HERBERT MORGAN, R.S.S., Cwmpwr, Llanarthney, Carmarthen.

Class 2.—*Cart Horses.* [46 entries, 2 absent.]

- 113 I. (£3 10s., & S. M.¹)—HARRY WILKINSON, R.S.S., Chapel Allerton, Leeds.
 103 II. (£3.)—TOM SCHOLEY, West Street, Worsbro' Dale, Barnsley.
 90 III. (£2 10s., & B. M.²)—JOHN CHARLES MORRIS, R.S.S., Henley-in-Arden.
 82 IV. (£2.)—THOMAS BENJAMIN LEWIS, R.S.S., Cambrian Forge, Aberystwyth.
 66 V. (£1 10s.)—THOMAS ALFRED ELAM, R.S.S., Mill Lane, Brighouse.
 88 VI. (£1.)—HAROLD MOON, The Forge, Birdwell, Barnsley.
 65 R. N. & H. C.—EDWARD ERNEST DRING, Long Bennington, Grantham.

PLANS OF FARM BUILDINGS.

[77 entries.]

- I. (£50.)—J. W. HEPFON, Londesborough, Market Weighton. (Plough Share.)
 II. (£25.)—CLARK & MOSCROP, Feethams, Darlington. (Utility.)
 III. (£15.)—SAMUEL TAYLOR & SON, Nuttall, Nottingham. (Usus.)
 IV. (£10.)—JOHN M. HOLMES, 2 St. Mary's Gate, Grimsby. (Convalescent.)

FARM PRIZE COMPETITIONS.³

(Open to *bonâ fide* Tenant Farmers.)

Class 1.—*For the best managed arable and grass farms in the Counties of Northumberland and Durham, of 250 and not exceeding 600 acres.*

[9 entries.]

- 3 I. (£60, & £15 Cup.)—JOHN W. DRYDEN, Dene House Farm, Seaham Harbour.
 7 II. (£30.)—JAMES ORD, Cavil Head, Acklington.
 9 III. (£15.)—WILLIAM A. WEIGHTMAN, Hall Farm, Silksworth, Sunderland.

¹ Silver Medal given by the National Master Farriers' Association, for Members of the Association only.

² Bronze Medal given by the National Master Farriers' Association, for Members of the Association only.

³ Prizes given by the Newcastle Local Committee.

Class 2.—*For the best managed arable and grass farms in the Counties of Northumberland and Durham, of 50 and not exceeding 250 acres.*
[8 entries.]

- 13 I. (£35.)—GEORGE HARRISON, Gainford Hall, Gainford, Darlington.
17 II. (£25.)—FENWICK WILSON, Marden, Whitley Bay.
10 III. (£10.)—ROBERT H. DRYDEN, Mill House Farm, New Seaham.

Class 3.—*For the best managed dairy farm in the Counties of Northumberland and Durham, of 50 acres and upwards.* [4 entries.]

- 19 I. (£50.)—MALCOLM NICOL, Elstob House, Tunstall Road, Sunderland.
21 II. (£25.)—JOHN REAY, East Brunton, Gosforth, Newcastle-on-Tyne.
18 III. (£10.)—ROBERT J. EBDON, West Farm, Fulwell.

SHEEP DOG TRIALS.¹

[44 entries.]

- 36 I. (£10.)—WILLIAM BELL, Softley, Slaggyford, Carlisle, for **Tyne**.
43 II. (£5.)—THOMAS ARMSTRONG, Pinnacle, Ancrum, for **Coy**.
25 III. (£3.)—ISAAC HERDMAN, Waterfalls, Wark-on-Tyne, for **Tommy**.
17 IV. (£2.)—WILLIAM WALLACE, East Otterburn, Otterburn, for **Moss**.
37 V. (£1.)—ALEXANDER MILLAR, Mid Floak, Newton Mearns, Renfrew, for **Risp**.
29 R. N. & H. C.—ISAAC HERDMAN, Waterfalls, Wark-on-Tyne, for **Tyne**.

DAIRY COWS AND MILKERS' COMPETITIONS.²

Class 1.—*Dairy Cows, of any age or breed.* [30 entries.]

- 1 I. (£10.)—WALTER RIDLEY, Merryshields, Stocksfield-on-Tyne, for **Lily**.
15 II. (£5.)—JOHN LITTLETON, Arkleby Hall, Aspatria.
9 III. (£3.)—THE ASHINGTON COAL CO., Ashington, Morpeth.
26 IV. (£1.)—THE CO-OPERATIVE SOCIETY, Birtley, Co. Durham, for **Milk Maid**.

Class 2.—*Dairy Heifers (in-milk), bred by Exhibitor.* [3 entries.]

- 31 I. (£6.)—MARSHALL & MCBRYDE, Broomhaugh, Riding Mill-on-Tyne, for **Miss Molly**, white, born Nov. 11, 1905; s. Moonstone (86692), d. Stauley Molly 3rd.
32 II. (£3.)—MARSHALL & MCBRYDE, for **Peggy 4**, red and little white, born May 29, 1905; s. Victor (89087), d. Peggy 2nd.
33 III. (£1.)—MARSHALL & MCBRYDE, for **Grizel 9th**, red, born Aug. 19, 1905; s. Victor (89087), d. Grizel 6th.

Class 3.—*Men over 16 years of age.* [20 entries.]

- 14 I. (£3, & Gold Medal.)—CARR JONENS, Auction Mart, Gateshead.
3 II. (£2.)—JAMES H. RIDLEY, Merryshields, Stocksfield-on-Tyne.
5 III. (£1.)—R. MOORHEAD, Thornhill Farm, Sunderland.
2 IV. (10s.)—THOMAS RIDLEY, Old Ridley, Stocksfield-on-Tyne.

Class 4.—*Women over 16 years of age.* [29 entries.]

- 32 I. (£3, & Gold Medal.)—M. A. ROBSON, West Farm, Ovingham.
25 II. (£2.)—MISS JENNIE THOMPSON, Fairlie Farm, Elchester.
35 III. (£1.)—MRS. J. LISTER, Sunnyside Farm, Ravensworth, Gateshead.
37 IV. (10s.)—MISS MARY JANE ROGERSON, Colliery Farm, Seaton Delaval.

Class 5.—*Juniors under 16 years of age.* [22 entries.]

- 70 I. (£3, & Gold Medal.)—NELLIE MOORE, Mundles Farm, East Bolden, Sunderland, aged 14.
59 II. (£2.)—J. A. ROBINSON, East Farm, Tunstall, Sunderland, aged 11.
68 III. (£1.)—E. W. GREENSHIELDS, Ivy House, East Herrington, Sunderland, aged 8.
51 IV. (10s.)—J. W. ROSS, Unthank, Riding Mill-on-Tyne, aged 14.

¹ Prizes given by the Newcastle Local Committee.

² Prizes given by the Northumberland and Durham Tenant Farmers' Association.

PLOUGHING COMPETITIONS.¹

Open to the Counties of Northumberland and Durham.

Northumberland.

DIVISION I.—NEWCASTLE TO MORPETH.

Class 1.—*Swing Ploughs.* [19 entries.]

- I. (£5.)—ROBERT ANDERSON, Wallish Walls, Consett.
- II. (£4.)—THOMAS F. SMITH, Cartlington House, Whitley Bay.
- III. (£2.)—EDWARD BATY, Brokenheugh, Northumberland.
- IV. (£1.)—JOSEPH GIBBISON, Gardners Houses, Dinnington.
- V. (10s.)—WILLIAM BELL, Throckley South Farm, Newburn.

Class 2.—*Wheel Ploughs.* [16 entries.]

- I. (£5.)—EDWARD THAIN, High Weetslade, Dudley.
- II. (£4.)—WILLIAM GILHOHNE, Fawdon Red House, Gosforth.
- III. (£2.)—R. TAILFORD, High Weetslade, Dudley.
- IV. (£1.)—JOHN BAXTER, Gallow Hill, Aydon, Corbridge.
- V. (10s.)—M. JOHNSON, Blakelaw Farm, Newcastle-on-Tyne.

DIVISION II.—MORPETH TO ALNWICK.

Class 1.—*Swing Ploughs.* [17 entries.]

- I. (£5.)—THOMAS HALL, Earsdon East Forest, Longhorsley.
- II. (£4.)—JAMES NICHOL, Cresswell Farm, Morpeth.
- III. (£2.)—JOHN WILLIS, Polting Farm, Ellington, Morpeth.
- IV. (£1.)—WILLIAM SHOTTON, Ellington, Morpeth.
- V. (10s.)—ROBERT WILSON, Hermitage Farm, Warkworth.

Class 2.—*Wheel Ploughs.* [7 entries.]

- I. (£5.)—JOHN TEMPLE, Pegswood Farm, Morpeth.
- II. (£4.)—ROBERT W. WILLIS, Thurston New Houses, Acklington.
- III. (£2.)—GEORGE BROWN, Hirst Farm, Morpeth.
- IV. (£1.)—WILLIAM MILLER, Chester House, Acklington.
- V. (10s.)—ALEX. ENGLISH, Merwick Farm, Acklington.

DIVISION III.—ALNWICK TO BELFORD.

Class 1.—*Swing Ploughs.* [9 entries.]

- I. (£5.)—E. FARRELL, Field House, Lesbury.
- II. (£4.)—J. MULLINS, Warenford, Chathill.
- III. (£2.)—THOMAS ATHEY, Dunstons'eads, Christon Bank.
- IV. (£1.)—A. LAIDLER, East Fleethams, Chathill.
- V. (10s.)—ALEX. RIDPEATH, Lucker, Belford.

Class 2.—*Wheel Ploughs.* [11 entries.]

- I. (£5.)—THOMAS DUNN, Rock Mid Stead, Alnwick.
- II. (£4.)—JAMES DAVIDSON, Rock Moor House, Alnwick.
- III. (£2.)—WILLIAM MURRAY, Chester Hill, Belford.
- IV. (£1.)—R. J. LILICO, Preston Farm, Chathill.
- V. (10s.)—JOHN LEE, Branton, Glanton.

DIVISION IV.—BELFORD TO BERWICK.

Class 1.—*Swing Ploughs.* [21 entries.]

- I. (£5.)—GEORGE JOHNSTONE, St. Cuthbert's, Cornhill.
- II. (£4.)—JAMES JOHNSTONE, St. Cuthbert's, Cornhill.
- III. (£2.)—J. HARDY, Billy Law, Berwick.
- IV. (£1.)—A. POTTS, Presson, Cornhill.
- V. (10s.)—D. WILKINSON, East Loan End, Berwick.

Class 2.—*Wheel Ploughs.* [14 entries.]

- I. (£5.)—THOMAS SCOTT, Castle Heaton, Cornhill.
- II. (£4.)—GEORGE KERR, East Learmouth, Cornhill.
- III. (£2.)—R. KENNEDY, Shoreswood, Norham.
- IV. (£1.)—R. TAIT, Grindon, Norham.
- V. (10s.)—JAMES BROWN, Newburn, Norham-on-Tweed.

¹ Prizes given and competitions arranged by the Proprietors of the "Newcastle Chronicle."

Durham.

DIVISION I.—TYNE TO WEAR, FROM GATESHEAD TO DURHAM.

Class 1.—*Swing Ploughs.* [13 entries.]

- I. (£5).—J. J. KERTON, Monkton Farm, Jarrow.
- II. (£4).—F. CRAGGS, Low House Farm, East Boldon.
- III. (£2).—J. DUNN, Clendon Grange, Sunderland.
- IV. (£1).—V. YOUNGER, Whitehall, Chester-le-Street.
- V. (10s.).—J. MITCHESON, Lobley Hill, Ravensworth.

Class 2.—*Wheel Ploughs.* [26 entries.]

- I. (£5).—WILLIAM CARR, Arbour House, Durham.
- II. (£4).—THOMAS SCOTT, Whittle Burn, Great Usworth.
- III. (£2).—JOSEPH POWELL, Eden Hill, Beamish.
- IV. (£1).—THOMAS E. PALLISTER, Red Barns, Brandon Colliery.
- V. (10s.).—ROBERT HOWDEN, Hagg House Farm, Framwellgate Moor.

DIVISION II.—WEAR TO SOUTHERN BOUNDARY OF THE COUNTY.

Class 1.—*Swing Ploughs.* [8 entries.]

- I. (£5).—THOMAS DIXON, Glebe Farm, Billingham.
- II. (£4).—G. REAH, Thorpe Thewles, Ferryhill.
- III. (£2).—RICHARD PALLISTER, Coatham House, Mundeville, Darlington.
- IV. (£1).—JAMES DIXON, Hopewell, Pierce Bridge, Darlington.
- V. (10s.).—D. WALKER, Roughlea Farm, Ferryhill.

Class 2.—*Wheel Ploughs.* [14 entries.]

- I. (£5).—T. F. FIRBY, Glebe Farm, Bishopston.
- II. (£4).—T. E. KNOX, Brafferton, Darlington.
- III. (£2).—J. W. SWINBANK, Brooks Farm, Sedgfield.
- IV. (£1).—T. VICKERS, Newton Kelton, Darlington.
- V. (10s.).—G. PALLISTER, Coatham House, Mundeville, Darlington.

CHAMPION CLASSES.

Class 1.—*Swing Ploughs.*

- I. (Silver Cup, & £5).—ROBERT ANDERSON, Wallish Walls, Consett.
- II. (£5).—J. J. KIRTON, Monkton Farm, Jarrow.
- III. (£4).—GEORGE JOHNSTONE, St. Cuthbert's, Cornhill-on-Tweed.
- IV. (£3).—THOMAS DIXON, Glebe Farm, Billingham, Stockton.
- V. (£2).—THOMAS HALL, Earsdon East Forest, Longhorsley.
- VI. (£1).—E. FARRELL, Field House, Lesbury.

Class 2.—*Wheel Ploughs.*

- I. (Silver Cup, & £5).—EDWARD THAIN, High Weetslade, Dudley.
- II. (£5).—THOMAS SCOTT, Castle Heaton, Cornhill-on-Tweed.
- III. (£4).—T. F. FIRBY, Glebe Farm, Bishopston.
- IV. (£3).—WILLIAM CARR, Arbour House, Durham.
- V. (£2).—THOMAS DUNN, Rock Mid Stead, Alnwick.
- VI. (£1).—JOHN TEMPLE, Pegswood, Morpeth.

FORESTRY SECTION.

Class 1.—*Specimens of Oak, Elm, and Ash Timber, grown in Great Britain or Ireland.*

- 2 I. (Silver Medal).—EARL BEAUCHAMP, Madresfield Court, Malvern.
- 4 II. (Bronze Medal).—VISCOUNT RIDLEY, Blagdon Hall, Cramlington.

Class 2.—*Specimens of Larch, Spruce, and Scotch Pine Timber.*

- 7 I. (Silver Medal).—THE EARL OF CARNARVON, Highclere Castle, Newbury.
- 10 II. (Bronze Medal).—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.
- 6 R. N.—EARL BEAUCHAMP, Madresfield Court, Malvern.

Class 3.—*Specimens of any other sort of Hard Wood or Broad-leaved Timber.*

- 13 I. (Silver Medal).—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.
- 12 II. (Bronze Medal).—THE MARQUIS OF EXETER, Burghley House, Stamford.

Class 4.—*Specimens of any other sort of Coniferous Timber.*

- 14 I. (Silver Medal).—THE EARL OF CARNARVON, Highclere Castle, Newbury.
- 15 II. (Bronze Medal).—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.

- Class 5.—*Specimens of damage done by Insect Pests injurious to Forest Trees.*
 19 I. (Silver Medal).—A. T. GILLANDERS, Alnwick Castle, Northumberland.
 17 II. (Bronze Medal).—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.
- Class 6.—*Specimens showing comparative quality of any Timber grown on different soils and situations.*
 21 I. (Silver Medal).—EARL BEAUCHAMP, Madresfield Court, Malvern.
 20 R. N.—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle.
- Class 7.—*Specimens demonstrating the beneficial effects of Pruning.*
 22 I. (Silver Medal).—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle.
- Class 8.—*Specimens of Stems, and Boards cut from them, illustrating the effects of dense and thin crops in branch suppression and quality of the timber.*
 23 I. (Silver Medal).—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle.
 24 R. N.—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.
- Class 9.—*Examples of the damage caused by Squirrels, Voles, &c., to various kinds of trees.*
 27 I. (Silver Medal).—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.
- Class 10.—*Gates for Farm or Estate use, manufactured from Oak Timber.*
 34 I. (Silver Medal).—EARL FITZWILLIAM, Wentworth, Rotherham.
 35 II. (Bronze Medal).—VISCOUNT RIDLEY, Blagdon Hall, Cranlington.
 32 R. N.—THE MARQUIS OF EXETER, Burghley House, Stamford.
- Class 11.—*Gates for Farm or Estate use, manufactured from any other home-grown wood.*
 38 I. (Silver Medal).—EARL FITZWILLIAM, Wentworth, Rotherham.
- Class 12.—*Wicket or Hunting Gates (self-closing), manufactured from home-grown timber.*
 40 I. (Silver Medal).—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle.
 43 R. N.—EARL FITZWILLIAM, Wentworth, Rotherham.
- Class 13.—*Specimens of Home-grown Timber, suitable for estate purposes, showing the advantage of applying Creosote or any other preservative.*
 45 I. (Silver Medal).—EARL FITZWILLIAM, Wentworth, Rotherham.
 46 R. N.—THE EARL OF YARBOROUGH, Brocklesby Park, Lincolnshire.

IMPLEMENTS.

- Class 1.—*Artificial Manure Distributors.* [19 entries.]
 1154 I. (Gold Medal).—J. & R. WALLACE, Castle Douglas, N.B.
 955 II. (Bronze Medal).—ALEXANDER JACK & SONS, Maybole, N.B.
- Class 2.—*Farmyard Manure Distributors (Broadcast).* [1 entry.]
 [No award.]
- Class 3.—*Farmyard Manure Distributors (Drills).* [2 entries.]
 [No award.]

Miscellaneous Implements.

Silver Medal for articles entered as "New Implements for Agricultural or Estate Purposes."

- 3881 THE LAMP PUMP SYNDICATE, LTD., 12 Carey Street, Westminster, S.W., for Pump for Shallow Well.

LOCAL CLASSES.¹

Confined to the County of Northumberland.

CATTLE.

- Class 1.—*Sharthorn Bulls, calved in or before 1905.* [6 entries.]
 2 I. (£5).—JOHN SWANN, The Lookout, Seaton Delaval, for Royal Acornb 12th (93187), red, calved May 1, 1905; s. Cadwallader Bates (83019), d. Lady Acornb 20th by Crown Prince (76450).

¹ Prizes given by the Northumberland Agricultural Society.

- 4 II. (£2.)—A. F. NICHOL, Bridford, Belford, for **Lord Findon**, roan, calved Jan. 9, 1905, bred by P. B. Macintyre, Findou Mains, Canon Bridge, N.B.; s. Cyprus King (85720), d. Lily of March 3rd by Eclipse (74470).
 3 III. (£1.)—WILLIAM BELL, Ratcheugh, Alnwick, for **Master Millicent** (92478), roan, calved May 16, 1905; s. Bachelor's Pride (85204), d. Lady Millicent by Lord Howick.
 1 R. N. & H. C.—J. H. STRAKER, Howden Dene, Corbridge, for **Gold Mine**.

Class 2.—Shorthorn Bulls, calved in 1906. [8 entries.]

- 10 I. (£5.)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Star of Alnwick** (97270), roan, calved Jan. 22, 1906; s. Star of Bassington (90228), d. Rose of Cornwall by Penwarden (66012).
 12 II. (£2.)—D. H. BREWIS, High Park, Felton, for **Highland Baron**, roan, calved April 16, 1906, bred by the Duke of Northumberland; s. Baron Weetwood (87920), d. Gaiety's Gem by Highland Monarch (74702).
 13 III. (£1.)—JOHN THOMPSON, The Ash, Wark-on-Tyne, for **Coral Favourite** (94715), roan, calved March 10, 1906, bred by J. D. Fletcher, Rosebaugh, N.B.; s. Red Emperor (87026), d. Coral Fairy by Watchword (68063).
 8 R. N. & H. C.—WILLIAM BELL, Ratcheugh, Alnwick, for **Lord Ratcheugh**.

Class 3.—Shorthorn Bulls, calved in 1907. [8 entries.]

- 18 I. (£5, & Special.)—A. F. NICHOL, Bradford, Belford, for **Village Monarch** (vol. 54), red and little white, calved Jan. 25, 1907; s. Village Swain (97559), d. Lily 10th by Morning Star (77302).
 16 II. (£2.)—WILLIAM BELL, Ratcheugh, Alnwick, for **Walton Chief**, red and little white, calved March 25, 1907, bred by Walter Hazell, Walton Grange, Aylesbury; s. Golden Hope (91859), d. Avalanche 4th by Ilaroid (68759).
 20 III. (£1.)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Whitewall Sir Richard**, roan, calved May 22, 1907, bred by Mr. Haley, Whitewall, Malton; s. Sir George (77891), d. Underley Countess by Sullivan (80071).
 17 R. N. & H. C.—WILLIAM BELL, for **Ratcheugh Model**.

Class 4.—Shorthorn Cows or Heifers, calved in or before 1905. [9 entries.]

- 31 I. (£5.)—JOHN BATY, Heathery Shank, Fenham, Newcastle-on-Tyne, for roan cow 6 years old.
 23 II. (£2.)—VISCOUNT RIDLEY, Blagdon Hall, Cramlington, for **Peach Blossom 7th** (vol. 53, 1140), roan heifer, calved April 14, 1905, bred by A. Robertson, Haugh of Ballechin, Ballinlurg; s. Victor Chief (82532), d. Peach Blossom 6th by Macbeth.
 25 III. (£1.)—THE ASHINGTON COAL CO., LTD., Colliery Farms, Ashington, Morpeth, for **Lady Roper 6th** (vol. 50, p. 867), roan cow, calved April 8, 1900, bred by Jno. Rickerby, Monkhill Mill, Burgh-by-Sands, Carlisle; s. Prince (73254), d. Lady Roper by Baron Bolton 12th (55289).
 26 R. N. & H. C.—WILLIAM BELL, for **Royal Waterloo Maid 9th**.

Class 5.—Shorthorn Heifers, calved in 1906. [4 entries.]

- 35 I. (£5.)—WILLIAM BELL, Ratcheugh, Alnwick, for **Ratcheugh Lady**, roan, calved Jan. 23, 1906; s. Lord Remenham 16th (92340), d. Ratcheugh Witch by Baron Abbotsford (76087).
 32 II. (£2.)—VISCOUNT RIDLEY, Blagdon Hall, Cramlington, for **Clarice** (vol. 53, p. 718), roan, calved March 4, 1906, bred by James Durno, Jackstown, Aberdeenshire; s. Royal Mint (87199), d. Coconut 6th by Golden Prospect (81181).
 33 III. (£1.)—J. H. STRAKER, Howden Dene, Corbridge, for **Cowslip** (vol. 53, p. 762), roan, calved Jan. 7, 1906, bred by W. Forster, Bull's Hill, Allendale; s. Silver Coin (79963), d. Merry Maid by May Prince (81104).
 34 R. N. & H. C.—WILLIAM BELL, for **Little Clara**.

Class 6.—Shorthorn Heifers, calved in 1907. [7 entries.]

- 42 I. (£5.)—THE DUKE OF NORTHUMBERLAND, K.G., Alnwick Castle, Alnwick, for **Tyneside Daisy**, roan, calved Feb. 5, 1907; s. Sir Augustus (90155), d. Northumberland Daisy by Pride of Princes (77456).
 39 II. (£2.)—WILLIAM BELL, Ratcheugh, Alnwick, for **Lady Barrington**, red, calved April 20, 1907; s. Lord Remenham 16th (92340), d. Pierrepont Lady Barrington 4th by Millionaire (71016).
 38 III. (£1.)—WILLIAM BELL, for **Carmen**, roan, calved April 24, 1907, bred by W. Graham, Eden Grove; s. Holber Laburnum 4th (88861), d. Careful by Buttercup's Pride (78512).

Class 7.—Aberdeen Angus Bulls, [5 entries.]

- 46 I. (£5.)—G. W. GLAHOME, Cheswick, Beal, for **Plunger of Benton** (23680), calved Dec. 17, 1903, bred by C. Stephenson, Sandyford Villa, Newcastle-on-Tyne; s. Eliminator (17755), d. Petronilla (28051) by Euroclydon (13400).
 43 II. (£2.)—LORD ALLENDALE, Bywell Hall, Stockfield-on-Tyne, for **Tartan Tego** (27579), calved Dec. 24, 1906, bred by Mr. Grant, Finlarig, N.B.; s. Evenhand (21900), d. Tartan Queen of Finlarig (37460) by Edelhof (20416).

¹ Special Prize of £10 given by the Shortborn Society for the best Bull in Class 3, entered in Coates's Herd Book.

- 44 **III.** (£1).—CLEMENT STEPHENSON, Sandyard Villa, Newcastle-on-Tyne, for **Elect of Eshott** (24336), calved Dec. 16, 1904, bred by T. H. Bainbridge; s. Egmont of Pitpointie (15369), d. Electrine (33135) by Breckan (15235).

Class 8.—Aberdeen Angus Cows or Heifers. [6 entries.]

- 51 **I.** (£5).—CLEMENT STEPHENSON, Sandyard Villa, Newcastle-on-Tyne, for **Rose Root** (26848), cow, calved March 21, 1898, bred by the late Alexander Geddes, Blairmore; s. Eimeo (12450), d. Rose of Prosen (15804) by Brennus 3rd (5907).
 52 **II.** (£2).—CLEMENT STEPHENSON, for **Rita of Benton** (41270), heifer, calved Dec. 11, 1905; s. Elate (16513), d. Rita 4th of Notts (27776) by Partner (10322).
 49 **III.** (£1).—LORD ALLENDALE, Bywell Hall, Stocksfield-on-Tyne, for **Marquisa of Birtley** (39432), calved Jan. 2, 1905, bred by the late Chas. Perkins and Partners; s. Prince Gem of Birtley (22506), d. Marchioness of Asswanley (30086) by Patrimo.

SHEEP.

Class 9.—Border Leicester Rams, of any age above one shear. [3 entries.]

- 56 **I.** (£4).—THOMAS PIGG, Dilston Park, Corbridge-on-Tyne, for **Howden Victor**, born March 15, 1906, bred by J. H. Straker, Howden Dene, Corbridge-on-Tyne.
 55 **II.** (£2).—CHARLES CHARLTON, Shaw House, Stocksfield-on-Tyne, for ram, born May, 1904, bred by Mr. Wood, Brocksbushes.

Class 10.—Border Leicester Shearling Rams. [13 entries.]

- 57 **I.** (£5).—THE SCREMERTON COAL CO., LTD., Heathery Tops, Scremerston, Berwick-on-Tweed.
 63 **II.** (£2).—WILLIAM RIDLEY, Shilford, Stocksfield-on-Tyne.
 66 **III.** (£1).—WILLIAM ROBSON, Low Hedgeley, Alnwick, for ram, born March, 1907.

Class 11.—Border Leicester Ewes. [3 entries.]

- 72 **I.** (£4).—CHARLES CHARLTON, Shaw House, Stocksfield-on-Tyne.
 70 **II.** (£2).—THE SCREMERTON COAL CO., LTD., Heathery Tops, Scremerston, Berwick-on-Tweed, for ewe, bred by the late Mr. Scott, Thornholme, Carlisle.

Class 12.—Border Leicester Gimmers. [10 entries.]

- 74 **I.** (£4).—THE SCREMERTON COAL CO., LTD., Heathery Tops, Scremerston.
 78 **II.** (£2).—WILLIAM ROBSON, Low Hedgeley, Alnwick.

Class 13.—Cheriot Rams, of any age above one shear. [9 entries.]

- 86 **I.** (£4).—G. G. REA, Middleton, Wooler, for **Peebles Dandy**, three shear, bred by John Elliot, Hindhope, Jedburgh.
 83 **II.** (£2).—JACOB ROBSON, Byrness, Otterburn, for ram, three shear.
 87 **R. N. & H. C.**—ROBERT THORNTON, West Kielder, Kielder Station, for **Hamlet**.

Class 14.—Cheriot Shearling Rams. [5 entries.]

- 93 **I.** (£4), & 92 **II.** (£2).—JACOB ROBSON, Byrness, Otterburn.
 96 **R. N. & H. C.**—JOHN ROBSON, Newton, Bellingham.

Class 15.—Cheriot Ewes. [5 entries.]

- 97 **I.** (£4), & 98 **II.** (£2).—JACOB ROBSON, Byrness, Otterburn.

Class 16.—Cheriot Gimmers. [5 entries.]

- 102 **I.** (£4), & 103 **R. N. & H. C.**—JACOB ROBSON, Byrness, Otterburn.
 106 **II.** (£2).—JOHN ROBSON, Newton, Bellingham.

Class 17.—Black-faced Mountain Rams, of any age above one shear.

[11 entries.]

- 110 **I.** (£4).—CHRISTOPHER CULLEY, Puncherton, Rothbury, for **Gold Hunter**, born April, 1904, bred by C. Howatson, Glenbuck, N.B.
 107 **II.** (£2).—J. & T. MAUGHAN, Westburnhope, Hexham, for ram, born April, 1906.
 108 **R. N. & H. C.**—THOMAS MURRAY, Scotscoltherd, Haltwhistle.

Class 18.—Black-faced Mountain Shearling Rams. [11 entries.]

- 121 **I.** (£4).—EDWARD STOBART, Blackhalls, Kirkwhelpington, for ram, bred by John Robson, Newton, Bellingham.
 125 **II.** (£2).—F. H. PORTER, Doddington, Wooler.
 120 **R. N. & H. C.**—EDWARD STOBART.

Class 19.—Black-faced Mountain Ewes. [3 entries.]

- 129 **I.** (£4).—ADDISON & PAISLEY, Tarsset Hall, Bellingham, for ewe, bred by Cadzow Bros., Borland.

Class 20.—Black-faced Mountain Gimmers. [4 entries.]

- 133 **I.** (£4).—ADDISON & PAISLEY, Tarsset Hall, Bellingham.
 132 **II.** (£2).—F. H. PORTER, Doddington, Wooler.

Class 21.—*Half-bred Shearling Rams, by Leicester Rams from Cheriot Ewes.* [3 entries.]

137 I. (£4), & 136 II. (£2).—SIR HENRY H. SCOTT, Hipsburn, Lesbury.

Class 22.—*Half-bred Ewes, of any age, by Leicester Rams from Cheriot Ewes, or Half-bred Rams from Half-bred Ewes.* [1 entry.]

139 I. (£4).—F. H. PORTER, Doddington, Wooler.

Class 23.—*Half-bred Gimmers, by Leicester Rams from Cheriot Ewes, or Half-bred Rams from Half-bred Ewes.* [5 entries.]

143 I. (£4), & 144 II. (£2).—F. H. PORTER, Doddington, Wooler.

Class 24.—*Oxford Down Shearling Rams.* [5 entries.]

149 I. (£4), 147 II. (£2), & 148 R. N. & H. C.—JOHN KNOX LYAL, Peepy, Stocksfield.

Class 25.—*Oxford Down Ram Lambs.* [13 entries.]

150 I. (£4 & Special¹), 152 II. (£2), & 151 III. (£1).—A. F. NICHOL, Bradford, Belford.

Class 26.—*Oxford Down Gimmers.* [5 entries.]

165 I. (£4), 164 II. (£2), & 163 R. N. & H. C.—JOHN KNOX LYAL, Peepy, Stocksfield.

HORSES.

For Agricultural and Draught Purposes.

Class 27.—*Bred Mares, with Foals at foot, or in foal at time of Show.*

[6 entries.]

171 I. (£6).—JAMES JOHNSON, Wharmley, Hexham, for *Daisy's Pride*, bay, foaled 1903; s. Lord Lothian (5998), d. *Daisy by Pride of Cumberland* (3932).

170 II. (£3).—JOHN P. RAND, Westnewton, Kirknewton, Alnwick, for *Beauty*, bay, foaled April 20, 1902; s. *Historian* (2429), d. *Nance by Sir Everard* (5353).

168 III. (£2).—W. R. TROTTER, North Acomb, Stocksfield, for *Garland*, bay, foaled 1911, bred by Matthew Cowing, Low Morley, Haydon Bridge; s. *Chainbearer*, d. *by Pearl of Avondale*.

169 R. N. & H. C.—ROBSON URWIN, East Farm, Backworth, for *Springtime*.

Class 28.—*Colt or Filly Foals, the produce of and shown with Mares entered in Class 27.* [6 entries.]

177 I. (£2).—JAMES JOHNSON, Wharmley, Hexham, for bay filly; s. *Royal Fashion* (10878), d. *Daisy's Pride by Lord Lothian* (5998).

174 II. (£1).—W. R. TROTTER, North Acomb, Stocksfield-on-Tyne, for bay filly; s. *Gartley Squire*, d. *Garland*.

176 R. N. & H. C.—JOHN P. RAND, Westnewton, Kirknewton, Alnwick.

Class 29.—*Geldings or Mares, Four years old and upwards.* [5 entries.]

180 I. (£4).—FENWICK WILSON, Marden, Whitley Bay, for bay, foaled 1903.

182 II. (£2).—JOHN BATY, Heathery Shank, Fenham, Newcastle-on-Tyne, for *Farmer*, brown gelding, four years old, bred by Mr. Jackson, Doekray Hall, Wigton; s. *Speciality* (11547).

Class 30.—*Three-year-old Geldings.* [5 entries.]

187 I. (£4), & 188 II. (£2).—FENWICK WILSON, Marden, Whitley Bay, for dark brown geldings, foaled 1905.

186 R. N. & H. C.—J. REAY, East Brunton, Gosforth, for *Prince*.

Class 31.—*Three-year-old Fillies.* [6 entries.]

193 I. (£4).—ROBERT HALL, Thorntree House, Seaton Burn, Dudley, R.S.O., for black; s. *Historian* (10775), d. *by Toward Castle* (9863).

194 II. (£2).—ROBERT HALL, for bay; s. *Lord Roberts* (11103), d. *Montrave Roulette* (16722) *by Macgregor* (1487).

191 R. N. & H. C.—T. CABRY, Turvelaws, Wooler.

Class 32.—*Two-year-old Geldings.* [1 entry.]

196 I. (£4).—JOHN P. RAND, Westnewton, Kirknewton, Alnwick, for *Surprise*, bay; s. *Baron Godolphin* (11602).

¹ Special Prize of £3 given by the Oxford Down Sheep Breeders' Association for the best Ram Lamb entered, or eligible for entry, in the Flock Book.

Class 33.—Two-year-old Fillies. [2 entries.]

- 197 I. (£4.)—T. CARRY, Turvelaws, Wooler, for black, foaled May, 1906; s. Baron Romeo.
198 II. (£2.)—W. R. TROTTER, North Acomb, Stocksfield, for brown; s. Cock of the North.

Class 34.—One-year-old Colts or Geldings. [4 entries.]

- 199 I. (£4.)—W. R. TROTTER, North Acomb, Stocksfield, for **Cock of the Walk**, brown colt; s. Cock of the North, d. Kate by McMeeckan.
202 II. (£2.)—ROBERT HALL, Thorntree House, Seaton Burn, Dudley, R.S.O., for bay colt, foaled March 28, 1907, bred by Mr. Shepherd, Arbour House, Durham; s. Edwin Mac (12565), d. Durham Queen.
201 R. N. & H. C.—ROBERT HALL.

Class 35.—One-year-old Fillies. [5 entries.]

- 207 I. (£4.)—JOHN P. RAND, Westnewton, Kirknewton, Alnwick, for bay, foaled March 27, 1907; s. Perfection (11843), d. Beauty by Historian (2422).
204 II. (£2.)—GEORGE A. DAVIDSON, North Shotton, Cramlington, for black, foaled May 24, 1907; s. Storm Signal, d. Nugget.
205 R. N. & H. C.—WILLIAM URWIN, Middle Farm, Backworth, for **Blossom**.

Hunting Classes.

Class 36.—Brood Mares, for breeding Hunters, with Foals at foot, or in-foal at time of Show. [2 entries.]

- 209 I. (£6.)—MESSRS. SUMMERBELL, South Shotton, Cramlington, for **Jessie**, bay, 13 years old, bred by the late Elias Griffith, Chirk, North Wales; s. May Fly II.

Class 37.—Colt or Filly Foals, the produce of and shown with Mares entered in Class 36. [2 entries.]

- 211 I. (£2.)—MESSRS. SUMMERBELL, South Shotton, Cramlington, for foal, foaled June 11, 1908; s. Red Wings, d. **Jessie** by May Fly II.

Class 38.—Three-year-old Geldings. [3 entries.]

- 213 I. (£4.)—THOMAS L. BELL, High Seat, Wylam-on-Tyne, for brown, bred by Mr. Barron, Dodley, Stocksfield; s. **Bamboo**.

Class 39.—Three-year-old Fillies. [5 entries.]

- 218 I. (£4.)—MESSRS. HARRISON, Ingoe Low Hall, Matfen, Corbridge-on-Tyne, for brown; s. **Bamboo**, d. **Black Be-s** by **Blue Grass**.
216 II. (£2.)—MESSRS. NIXON, Pegswood Farm, Morpeth, for chestnut, foaled May, 1905; s. **Glory Smitten**, d. **Miss Durham**.
219 R. N. & H. C.—HENRY WATSON, Benton Lodge, Long Benton, R.S.O.

Class 40.—Two-year-old Geldings. [5 entries.]

- 222 I. (£4.)—JOHN O. SCOTT, Oaklands, Riding Mill, for **Cardinal**, brown, bred by Mr. Charlton, Welton; s. **Red Wings** (33), d. **Kate**.
223 II. (£2.)—MESSRS. SUMMERBELL, South Shotton, Cramlington, for **His Lordship**, bay; s. **Sobieski**, d. **Jessie** by May Fly II.
221 R. N. & H. C.—JACOB W. ANNETT, Tog-ton, Acklington, for **Lord Howick**.

Class 41.—Two-year-old Fillies. [1 entry.]

[No competitor.]

Class 42.—One-year-old Colts or Geldings. [4 entries.]

- 229 I. (£4.)—HENRY ANGUS, Matfen High House, Corbridge, for gelding, foaled May 20, 1907; s. **King's Bandsman**, d. **by Coquet Lad**.
228 II. (£2.)—J. S. FAWCUS, Dunstansteads, Christon Bank, R.S.O., for colt.
227 R. N. & H. C.—MESSRS. SUMMERBELL, South Shotton, Cramlington, for **Anxious**.

Class 43.—One-year-old Fillies. [5 entries.]

- 234 I. (£4.)—JOHN ANGUS, Whitefield, Morpeth, for **Victory**, chestnut, foaled April 5, 1907; s. **Battlefield**, d. **Fanny Smitten** by **Glory Smitten**.
232 II. (£2.)—MESSRS. NIXON, Pegswood Farm, Morpeth, for chestnut, foaled June, 1907; s. **Battlefield**, d. **Queen** by **King Harold**.
230 R. N. & H. C.—DAVID DEUCHAR, Low Buston, Warkworth, for **Coquet Lass**.

PRIZE LIST

For GLOUCESTER SHOW, JUNE 22 to 26, 1909.

Total value of Prizes offered (inclusive of Champion Prizes, Special Prizes, Cups, Medals, and Class Prizes), 9,675*l.* 18*s.*, of which amount 1,355*l.* are contributions from the Gloucester Local Committee, 315*l.* from the Herefordshire and Worcestershire Agricultural Society, 2,339*l.* 8*s.* from various Breed Societies, and 836*l.* 10*s.* from other sources.

CHAMPION PRIZES.

The following Champion Prizes are offered by Breed Societies :—

HORSES.

HUNTERS' IMPROVEMENT SOCIETY :—Two Gold Medals for the best Hunter Mare 4 years and upwards, and for the best Filly not exceeding 3 years old.

POLO AND RIDING PONY SOCIETY :—Two Gold Medals for the best Polo and Riding Pony Stallion or Colt, and for the best Mare or Filly.

HACKNEY HORSE SOCIETY :—Two Gold Medals, value 10*l.* each (or 10*l.* in money), for the best Hackney Stallion, and for the best Mare or Filly.

SHETLAND PONY STUD BOOK SOCIETY :—Silver Medal for the best Shetland Pony Stallion.

WELSH PONY AND COB SOCIETY :—Two Silver Medals and Certificates for the best Welsh Pony Stallion, and for the best Mare.

SHIRE HORSE SOCIETY :—Two Gold Medals, value 10*l.* each (or 10*l.* in money), for the best Shire Stallion, and for the best Mare or Filly, and 5*l.* each to the Breeders of the Champion Shire Stallion, and Mare or Filly.

CLYDESDALE HORSE SOCIETY :—Two Prizes of 10*l.* each for the best Clydesdale Stallion, and for the best Mare or Filly.

HACKNEY HORSE SOCIETY :—Gold Medal (or 5*l.* in money) for the best Mare or Gelding in the Single Driving Classes, the produce of a Registered Hackney Stallion.

CATTLE.

SHORTHORN SOCIETY :—Two Prizes of 20*l.* each for the best Shorthorn Bull, and for the best Cow or Heifer.

DAIRY SHORTHORN (COATES'S HERD BOOK) ASSOCIATION :—Prize of 10*l.* for the best Pedigree Shorthorn Dairy Cow or Heifer.

HEREFORD HERD BOOK SOCIETY :—Two Prizes of 10*l.* 10*s.* each for the best Hereford Bull, and for the best Cow or Heifer.

DEVON CATTLE BREEDERS' SOCIETY :—Two Prizes of 10*l.* 10*s.* each for the best Devon Bull, and for the best Cow or Heifer.

SUSSEX HERD BOOK SOCIETY :—Two Silver Medals for the best Sussex Bull, and for the best Cow or Heifer.

RED POLL SOCIETY :—Two Prizes of 5*l.* each for the best Red Poll Bull, and for the best Cow or Heifer.

ABERDEEN ANGUS CATTLE SOCIETY :—A Gold Medal for the best breeding animal of the Aberdeen Angus breed.

ENGLISH ABERDEEN ANGUS CATTLE ASSOCIATION :—A Gold Medal for the best animal of the opposite sex to that of the animal awarded the Gold Medal of the Polled Cattle Society.

ENGLISH KERRY AND DEXTER CATTLE SOCIETY :—Two Challenge Cups, value 26*l.* 5*s.* each, for the best Kerry Bull, Cow, or Heifer, and for the best Dexter Bull, Cow, or Heifer.

ENGLISH JERSEY CATTLE SOCIETY :—Gold Medal (or 10*l.* in money), Silver Medal, and Bronze Medal for the three best Jersey Animals in the Butter-test Classes.

SHEEP.

OXFORD DOWN SHEEP BREEDERS' ASSOCIATION :—Two Prizes of 5*l.* each for the best Oxford Down Ram or Ram Lamb, and for the best Pen of Ewes or Ewe Lambs.

SOUTHDOWN SHEEP SOCIETY :—A Gold Medal (or 10*l.* 10*s.* in money) for the best Southdown Ram; and Silver Medal (or 1*l.* in money) for the best Pen of Ewes or Ewe Lambs.

HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION :—Prize of 10*l.* for the best Hampshire Down Ram Lamb, Pen of Ram Lambs, or Ewe Lambs; and 5*l.* for the best (Novice) Pen of Ram Lambs or Ewe Lambs.

LINCOLN LONG-WOOL SHEEP BREEDERS' ASSOCIATION :—A Piece of Plate, value 5*l.* for the best Lincoln Ram.

SOCIETY OF BORDER LEICESTER SHEEP BREEDERS :—A Challenge Cup, value 50*l.*, for the best Border Leicester Sheep.

KENT OR ROMNEY MARSH SHEEP BREEDERS' ASSOCIATION :—Prize of 10*l.* 10*s.* for the best Kent or Romney Marsh Ram.

COTSWOLD SHEEP SOCIETY :—Prize of 10*l.* 10*s.* for the best Cotswold Ram.

PIGS.

NATIONAL PIG BREEDERS' ASSOCIATION :—Three Gold Medals, or 5*l.* 5*s.* in money, for the best Large White Boar or Sow, Middle White Boar or Sow, and Tamworth Boar or Sow.

BRITISH BERKSHIRE SOCIETY :—Prize of 5*l.* 5*s.* for the best Berkshire Boar or Sow. LARGE BLACK PIG SOCIETY :—Prize of 10*l.* for the best Large Black Boar; and a Challenge Cup, value twenty guineas, for the best Large Black Sow.

LINCOLNSHIRE CURLY-COATED PIG BREEDERS' ASSOCIATION :—Two Prizes of 5*l.* 5*s.* each, for the best Lincolnshire Curly-coated Boar and the best Sow.

HORSES (£3,003).

	Prizes		
	1st £	2nd £	3rd £
HUNTERS.¹			
COLT OR GELDING, foaled in 1908	20	10	5
GELDING, foaled in 1907	20	10	5
GELDING, foaled in 1906	20	10	5
FILLY, foaled in 1908	20	10	5
FILLY, foaled in 1907	20	10	5
FILLY, foaled in 1906	20	10	5
MARE (with foal at foot), up to 14 st.	20	10	5
MARE (with foal at foot), up to more than 14 st.	20	10	5
COLT FOAL, produce of Mare in above classes	10	5	3
FILLY FOAL, produce of Mare in above classes	10	5	3

POLO AND RIDING PONIES.²			
STALLION, foaled in or before 1906, not over 14.2 h.	15	10	5
COLT, FILLY, OR GELDING, foaled in 1908, not over 13.3 h.	15	10	5
COLT, FILLY, OR GELDING, foaled in 1907, not over 14.1 h.	15	10	5
FILLY OR GELDING, foaled in 1906, not over 14.1½ h.	15	10	5
MARE (with foal at foot), not over 14.2 h.	15	10	5

CLEVELAND BAYS OR COACH HORSES.			
STALLION, foaled in 1906 or 1907	15	10	5
MARE (with foal at foot)	15	10	5

HACKNEYS.³			
STALLION, foaled in 1908	20	10	5
STALLION, foaled in 1907	20	10	5
STALLION, foaled in 1906	20	10	5
FILLY, foaled in 1908	20	10	5
FILLY, foaled in 1907	20	10	5
FILLY, foaled in 1906	20	10	5
MARE (with foal at foot), over 14, and not over 15.2 h.	20	10	5
MARE (with foal at foot), over 15.2 h.	20	10	5
FOAL, produce of Mare in above classes	10	5	3

HACKNEY PONIES.³			
STALLION, foaled in or before 1906, not over 14 h.	15	10	5
COLT, FILLY, OR GELDING, foaled in 1907, not over 13.2 h.	15	10	5
FILLY OR GELDING, foaled in 1906, not over 13.3 h.	15	10	5
MARE (with foal at foot), not over 14 h.	15	10	5

SHETLAND PONIES.			
	Prizes		
	1st £	2nd £	3rd £
STALLION, foaled in or before 1906, not over 10½ h.	10	5	3
MARE (with foal at foot), not over 10½ h.	10	5	3

WELSH PONY.⁴			
<i>(Mountain or Moorland Class).</i>			
STALLION, foaled in or before 1906, not over 12.2 h.	10	5	3
MARE (with foal at foot), not over 12.2 h.	10	5	3

SHIRE.⁵			
STALLION, foaled in 1908	20	10	5
STALLION, foaled in 1907	20	10	5
STALLION, foaled in 1906	20	10	5
FILLY, foaled in 1908	20	10	5
FILLY, foaled in 1907	20	10	5
FILLY, foaled in 1906	20	10	5
MARE (with foal at foot)	20	10	5
COLT FOAL, produce of mare in above class	10	5	3
FILLY FOAL, produce of mare in above class	10	5	3

CLYDESDALE.⁶			
STALLION, foaled in 1908	20	10	5
STALLION, foaled in 1907	20	10	5
STALLION, foaled in 1906	20	10	5
FILLY, foaled in 1908	20	10	5
FILLY, foaled in 1907	20	10	5
FILLY, foaled in 1906	20	10	5
MARE (with foal at foot)	20	10	5
FOAL, produce of mare in above class	10	5	3

SUFFOLK.⁷			
STALLION, foaled in 1907	20	10	5
STALLION, foaled in 1906	20	10	5
FILLY, foaled in 1907	20	10	5
FILLY, foaled in 1906	20	10	5
MARE (with foal at foot)	20	10	5

RIDING CLASSES.⁸				
	Prizes			
	1st £	2nd £	3rd £	4th £
<i>Hunters.</i>				
MARE OR GELDING, foaled in 1905, up to from 12 to 14 st.	15	10	5	5
MARE OR GELDING, foaled in 1905, up to more than 14 st.	15	10	5	5
MARE OR GELDING (Novice), foaled in or before 1904, up to from 12 to 14 st.	15	10	5	5
MARE OR GELDING (Novice), foaled in or before 1904, up to more than 14 st.	15	10	5	5
MARE OR GELDING, foaled in or before 1905, up to from 12 to 13.7 st.	20	15	10	5
MARE OR GELDING, foaled in or before 1905, up to more than 13.7 and not over 15 st.	20	15	10	5

¹ £100 provided by gentlemen interested in the breed.² £50 provided by the Polo and Riding Pony Society.³ £75 provided by the Hackney Horse Society.⁴ £18 provided through the Welsh Pony and Cob Society.⁵ £70 provided by the Shire Horse Society.⁶ £50 provided by the Clydesdale Horse Society.⁷ £20 provided by the Suffolk Horse Society.⁸ Provided by the Gloucester Local Committee.

Prize List for Gloucester Show, 1909.

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RIDING CLASSES

(continued).

	Prizes			
	1st £	2nd £	3rd £	4th £
MARE OR GELDING, foaled in or before 1905, up to more than 15 st.	20	15	10	5
A CHALLENGE CUP, value 50 guineas for the best Hunter Mare or Gelding. ²				

Polo and Riding Pony.

MARE OR GELDING, (light-weight), foaled in or before 1905, not exceeding 14.2 h.	15	10	5	-
MARE OR GELDING (heavy-weight), foaled in or before 1905, not exceeding 14.2 h.	15	10	5	-

DRIVING CLASSES.¹

To be driven in Single Harness.

MARE OR GELDING (Novice), not over 14 h.	10	7	5	-
MARE OR GELDING (Novice), over 14 and not over 15 h.	10	7	5	-
MARE OR GELDING (Novice), over 15 h.	10	7	5	-
MARE OR GELDING, not over 14 h.	15	10	5	-
MARE OR GELDING, over 14 and not over 15 h.	15	10	5	-
MARE OR GELDING, over 15 and not over 15.2 h.	15	10	5	-
MARE OR GELDING over 15.2 h.	15	10	5	-

A CHALLENGE CUP, value 50 guineas, for the best Single Harness Mare or Gelding, &c.

To be driven in Double Harness.

MARES OR GELDINGS, not over 15 h.	15	10	5	5
MARES OR GELDINGS, over 15 h.	15	10	5	5

To be driven Tandem.

MARES OR GELDINGS, not over 15 h.	15	10	5	5
MARES OR GELDINGS, over 15 h.	15	10	5	5

Four-in-hand Teams.

MARES OR GELDINGS, to be shown before a Coach	20	15	10	5
A CHALLENGE CUP, value 50l., for the best team. ²				

DRAUGHT HORSES.¹

	Prizes			
	1st £	2nd £	3rd £	4th £
MARE OR GELDING, foaled in 1905, shown in Cart or Lurry	15	10	5	-
MARE OR GELDING foaled in or before 1904, shown in Cart or Lurry	15	10	5	-
TEAM OF TWO, foaled in or before 1905, to be shown in Lurry or Waggon	15	10	5	5

¹ Provided by the Gloucester Local Committee.

² Provided by Gentlemen interested in the breed.

³ £160 provided by the Shorthorn Society.

⁴ Offered by the Shorthorn Society.

⁵ Offered by the Dairy Shorthorn (Coates's Herd Book) Association.

⁶ £80 provided by the Lincolnshire Red Short-horn Association.

JUMPING COMPETITIONS.¹

	Prizes				
	1st £	2nd £	3rd £	4th £	5th £
A MARE OR GELDING	25	10	5	5	-
B MARE OR GELDING (First Prize Winners in Class A not eligible)	20	10	5	5	-
C MARE OR GELDING, (First Prize Winners in Classes A and B not eligible)	15	10	5	5	-
D CHAMPION CLASS, Mare or Gelding	25	15	10	5	5

CATTLE (£2,492).

SHORTHORN.³

	Prizes		
	1st £	2nd £	3rd £
BULL, calved in 1904, 1905, or 1906	10	6	4
BULL, calved on or between Jan. 1, 1907, and March 31, 1907	10	6	4
BULL, calved on or between April 1, 1907, and Dec. 31, 1907	10	6	4
BULL, calved on or between Jan. 1, 1908, and March 31, 1908	10	6	4
BULL, calved on or between April 1, 1908, and Dec. 31, 1908	10	6	4
SPECIAL PRIZE of 10l. for the best Bull calved in 1908, the property of an Exhibitor residing in Gloucestershire ⁴			
GROUP CLASS, for the best collection of either three or four Bulls, bred by Exhibitor	15	10	-
COW, in-milk, calved in or before 1905	10	6	4
HEIFER, in-milk, calved in 1906	10	6	4
HEIFER, calved on or between Jan. 1, 1907, and March 31, 1907	10	6	4
HEIFER, calved on or between April 1, 1907, and Dec. 31, 1907	10	6	4
HEIFER, calved on or between Jan. 1, 1908, and March 31, 1908	10	6	4
HEIFER, calved on or between April 1, 1908, and Dec. 31, 1908	10	6	4
GROUP CLASS, for the best collection of either three or four Cows or Heifers, bred by Exhibitor	15	10	-
DAIRY COW, in-milk, calved in or before 1904	10	6	4
DAIRY COW, in-milk, calved in 1905	10	6	4
DAIRY HEIFER, in-milk, calved in or after 1906 ⁵	10	6	4
Milk Yield Prizes	10	6	4

LINCOLNSHIRE RED SHORT-HORN.⁶

BULL, calved in 1903, 1904, 1905, or 1906	10	6	4
BULL, calved in 1907	10	6	4
BULL, calved in 1908	10	6	4
COW, in-milk, calved in or before 1905	10	6	4
HEIFER, in-milk, calved in 1906	10	6	4
HEIFER, calved in 1907	10	6	4
HEIFER, calved in 1908	10	6	4
Milk Yield Prizes	10	6	4

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HEREFORD. ¹	Prizes		
	1st	2nd	3rd
BULL, calved in 1904, 1905, or 1906	10	6	4
BULL, calved in 1907	10	6	4
BULL, calved on or between Jan. 1, 1908, and March 1, 1908.	15	10	4
BULL, calved in 1908, after March 1	10	6	4
COW, in-milk, calved in or before 1905	10	6	4
HEIFER, in-milk, calved in 1906	10	6	4
HEIFER, calved in 1907	10	6	4
HEIFER, calved in 1908	10	6	4
FAMILY CLASS, consisting of Bull and Cow, and their offspring not exceeding 12 months old	15	10	5

DEVON. ²			
BULL, calved in 1904, 1905, or 1906	10	6	4
BULL, calved in 1907	10	6	4
BULL, calved in 1908	10	6	4
BULL (novice), bred by Exhibitor, calved in 1907 or 1908.	10	6	4
COW OR HEIFER, in-milk, calved in or before 1906	10	6	4
HEIFER, calved in 1907	10	6	4
HEIFER, calved in 1908	10	6	4
HEIFER (novice), bred by Exhibitor, calved in 1907 or 1908.	10	6	4
DAIRY COW, in-milk, yielding the largest quantity of milk, total solids and percentage of butterfat to be considered in making the award	10	6	4

SOUTH DEVON.			
BULL, calved in 1904, 1905, 1906, or 1907	10	6	-
BULL, calved in 1908	10	6	-
COW OR HEIFER, in-milk, calved in or before 1906	10	6	-
HEIFER, calved in 1907	10	6	-
HEIFER, calved in 1908	10	6	-
Milk Yield Prizes	10	6	4

LONGHORN. ³			
BULL, calved in 1904, 1905, 1906, or 1907	10	6	4
BULL, calved in 1908	10	6	-
COW OR HEIFER, in-milk, calved in or before 1906	10	6	4
HEIFER, calved in 1907 or 1908	10	6	-
Milk Yield Prizes	10	6	4

SUSSEX. ⁴			
BULL, calved in 1904, 1905, 1906, or 1907	15	8	4
BULL, calved in 1908	15	8	4
COW OR HEIFER, in-milk, calved in or before 1906	15	8	4
HEIFER, calved in 1907	15	8	4
HEIFER, calved in 1908	15	8	4

WELSH. ⁵			
	Prizes		
	1st	2nd	3rd
BULL, calved on or after Dec. 1, 1903, and before Dec. 1, 1906	10	6	4
BULL, calved on or after Dec. 1, 1906, and before Dec. 1, 1907	10	6	4
BULL, calved on or after Dec. 1, 1907, and before Dec. 1, 1908	10	6	4
COW OR HEIFER, in-milk, calved before Dec. 1, 1906	10	6	4
HEIFER, calved on or after Dec. 1, 1906, and before Dec. 1, 1907	10	6	4
HEIFER, calved on or after Dec. 1, 1907, and before Dec. 1, 1908	10	6	4

RED POLL. ⁶			
BULL, calved in 1904, 1905, 1906, or 1907	10	6	4
BULL, calved in 1908	10	6	4
COW OR HEIFER, in-milk, calved in or before 1906	10	6	4
HEIFER, calved in 1907	10	6	4
HEIFER, calved in 1908	10	6	4
Milk Yield Prizes	10	6	4

ABERDEEN ANGUS. ⁷			
BULL, calved on or after Dec. 1, 1903, and before Dec. 1, 1906	10	6	4
BULL, calved on or after Dec. 1, 1906, and before Dec. 1, 1907	10	6	4
BULL, calved on or after Dec. 1, 1907, and before Dec. 1, 1908	10	6	4
COW, in-milk, calved before Dec. 1, 1905	10	6	4
HEIFER, in-milk, calved on or after Dec. 1, 1905, and before Dec. 1, 1906	10	6	4
HEIFER, calved on or after Dec. 1, 1906, and before Dec. 1, 1907	10	6	4
HEIFER, calved on or after Dec. 1, 1907, and before Dec. 1, 1908	10	6	4

GALLOWAY. ⁸			
BULL, calved on or after Dec. 1, 1903, and before Dec. 1, 1907	10	6	4
BULL, calved on or after Dec. 1, 1907, and before Dec. 1, 1908	10	6	4
COW OR HEIFER, in-milk, calved before Dec. 1, 1906	10	6	4
HEIFER, calved on or after Dec. 1, 1906, and before Dec. 1, 1908	10	6	4

HIGHLAND.			
BULL, calved in or before 1908	10	-	-
COW OR HEIFER, in-milk	10	-	-

AYRSHIRE. ⁹			
BULL, calved in or before 1908	10	6	4
COW OR HEIFER, in-milk or in-calf	10	6	4
Milk Yield Prizes	10	6	4

¹ £79 provided by the Hereford Herd Book Society.

² £60 provided by the Devon Cattle Breeders' Society.

³ £22 provided by the Longhorn Cattle Society.

⁴ £35 provided by the Sussex Herd Book Society.

⁵ £40 provided by the Welsh Black Cattle Society.

⁶ £20 provided by the Red Poll Society.

⁷ £20 provided by Local Gentlemen interested in the Breed.

⁸ £16 provided by the Galloway Cattle Society.

⁹ £8 provided by the Ayrshire Cattle Herd Book Society.

JERSEY.	Prizes		
	1st £	2nd £	3rd £
BULL, calved 1904, '05, '06, or '07	10	6	4
BULL, calved in 1908	10	6	4
COW, in-milk, calved in or before 1905	10	6	4
HEIFER, in-milk, calved in 1906	10	6	4
HEIFER, in-milk, calved in 1907	10	6	4
HEIFER, calved in 1908	10	6	4
COW OR HEIFER, in-milk, bred by Exhibitor, sired in Great Britain or Ireland ¹	10	6	4
Milk Yield Prizes	10	6	4

GUERNSEY. ²			
BULL, calved 1904, '05, '06, or '07.	10	6	-
BULL, calved in 1908	10	6	-
COW OR HEIFER, in-milk, calved in or before 1906	10	6	-
HEIFER, calved in 1907	10	6	-
HEIFER, calved in 1908	10	6	-
Milk Yield Prizes	10	6	4

KERRY. ³			
BULL, calved in 1904, 1905, 1906, or 1907	10	6	-
COW in-milk, calved in or before 1905	10	6	-
HEIFER, in-milk, calved in 1906	10	6	-
HEIFER, calved in 1907 or 1908	10	6	-
Milk Yield Prizes	10	6	4

DEXTER. ³			
BULL, calved in 1904, 1905, 1906, or 1907	10	6	-
COW, in-milk, calved in or before 1905	10	6	-
HEIFER, in-milk, calved in 1906	10	6	-
HEIFER, calved in 1907 or 1908	10	6	-
Milk Yield Prizes	10	6	4

SPECIAL MILK YIELD.

(Judged without Inspection.)

COW, in-milk, of any age, breed, or cross ¹	12	8	5
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BUTTER TESTS.¹

COW, of any age, breed, or cross, exceeding 900 lb. live weight.	15	10	5
COW, of any age, breed, or cross, not exceeding 900 lb. live weight.	15	10	5
SPECIAL PRIZES for the 3 cows in above classes obtaining the greatest number of points in the competition	12	8	5

SHEEP (£2,015 10s.).

OXFORD DOWN. ⁴			
	1st £	2nd £	3rd £
SHEARLING RAM.	10	5	3
RAM LAMB, dropped in 1909	10	5	3
THREE RAM LAMBS, dropped in 1909	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1909	10	5	3

SHROPSHIRE. ⁵				
	1st £	2nd £	3rd £	4th £
TWO-SHEAR RAM	10	5	3	-
SHEARLING RAM	10	5	3	-
FIVE SHEARLING RAMS	15	10	5	-
THREE SHEARLING RAMS (Novice)	10	5	3	-
SELLING CLASS FOR SHEARLING RAM	10	5	3	2
THREE RAM LAMBS, dropped in 1909	10	5	3	-
THREE RAM LAMBS (Novice), dropped in 1909	10	5	3	-
THREE SHEARLING EWES	10	5	3	-
THREE EWE LAMBS, dropped in 1909	10	5	3	-
TEN SHEARLING FIELD EWES	10	5	3	-

SOUTHDOWN.			
	1st £	2nd £	3rd £
TWO-SHEAR RAM ⁶	10	5	3
SHEARLING RAM.	10	5	3
THREE SHEARLING RAMS ⁶	10	5	3
THREE RAM LAMBS, dropped in 1909	10	5	3
THREE SHEARLING EWES	10	5	3
THREE EWE LAMBS, dropped in 1909	10	5	3

HAMPSHIRE DOWN. ⁷					
	1st £	2nd £	3rd £	4th £	5th £
TWO-SHEAR RAM	10	5	3	-	-
SHEARLING RAM	10	5	3	-	-
SELLING CLASS FOR THREE SHEARLING RAMS	15	10	5	-	-
RAM LAMB, dropped in 1909	15	10	7	5	3
THREE RAM LAMBS, dropped in 1909	10	5	3	-	-
THREE RAM LAMBS (Novice), dropped in 1909	10	5	3	-	-
THREE SHEARLING EWES	10	5	3	-	-
THREE EWE LAMBS, dropped in 1909	10	5	3	-	-
THREE EWE LAMBS (Novice) dropped in 1909	10	5	3	-	-

¹ Offered by the English Jersey Cattle Society.

² £10 provided by the English Guernsey Cattle Society.

³ £20 provided by the English Kerry and Dexter Cattle Society.

⁴ £18 provided by the Oxford Down Sheep Breeders' Association.

⁵ £104 provided by the Shropshire Sheep Breeders' Association.

⁶ Offered by the Southdown Sheep Society.

⁷ £106 provided by the Hampshire Down Sheep Breeders' Association.

SUFFOLK.	Prizes		
	1st £	2nd £	3rd £
TWO-SHEAR RAM ¹ . . .	10	5	3
SHEARLING RAM . . .	10	5	3
RAM LAMB, dropped in 1909 ¹ . . .	10	5	3
THREE RAM LAMBS, dropped in 1909 . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3
THREE EWE LAMBS, dropped in 1909 . . .	10	5	3

DORSET HORN. ²			
SHEARLING RAM, dropped after Nov. 1, 1907 . . .	10	5	3
THREE RAM LAMBS, dropped after Nov. 1, 1908 . . .	10	5	3
THREE SHEARLING EWES, dropped after Nov. 1, 1907 . . .	10	5	3
THREE EWE LAMBS, dropped after Nov. 1, 1908 . . .	10	5	3
THREE EWE HOGGETS, dropped after Nov. 1, 1907, shown in their wool . . .	10	5	3

RYELAND. ³			
RAM, TWO SHEAR and up- wards . . .	10	5	3
SHEARLING RAM . . .	10	5	3
THREE RAM LAMBS, dropped in 1909 . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3

KERRY HILL (WALES). ⁴			
RAM, TWO SHEAR and upwards . . .	10	5	3
SHEARLING RAM . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3
THREE EWE LAMBS, dropped in 1909 . . .	10	5	3

LINCOLN. ⁵			
TWO-SHEAR RAM . . .	10	5	3
SHEARLING RAM . . .	10	5	3
FIVE SHEARLING RAMS . . .	15	10	5
THREE RAM LAMBS, dropped in 1909 . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3
THREE EWE LAMBS, dropped in 1909 . . .	10	5	3
THREE YEARLING EWES, shown in their wool . . .	10	5	3

LEICESTER. ⁶			
SHEARLING RAM . . .	10	5	-
THREE RAM LAMBS, dropped in 1909 . . .	10	5	-
THREE SHEARLING EWES . . .	10	5	-
THREE EWE LAMBS, dropped in 1909 . . .	10	5	-

BORDER LEICESTER.	Prizes		
	1st £	2nd £	3rd £
RAM, TWO SHEAR and upwards . . .	10	5	-
SHEARLING RAM . . .	10	5	-
SHEARLING EWE . . .	10	5	-

WENSLEYDALE. ⁷			
TWO-SHEAR RAM, entered or eligible for entry in the Wen- sleydale Blue-faced Flock Book . . .	10	5	-
SHEARLING RAM . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3

KENT OR ROMNEY MARSH. ⁸			
TWO-SHEAR RAM . . .	10	5	3
SHEARLING RAM . . .	10	5	3
FIVE SHEARLING RAMS . . .	15	10	5
THREE RAM LAMBS, dropped in 1909 . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3
THREE EWE LAMBS, dropped in 1909 . . .	10	5	3

COTSWOLD. ⁹			
RAM, TWO SHEAR and up- wards . . .	10	5	3
SHEARLING RAM . . .	10	5	3
SHEARLING RAM (Novice) . . .	5	3	2
THREE RAM LAMBS, dropped in 1909 . . .	10	5	3
THREE RAM LAMBS (Novice) dropped in 1909 . . .	5	3	2
THREE SHEARLING EWES . . .	10	5	3
THREE SHEARLING EWES (Novice) . . .	5	3	2
THREE EWE LAMBS, dropped in 1909 . . .	10	5	3
THREE EWE LAMBS (Novice) dropped in 1909 . . .	5	3	2
TEN BREEDING EWES, having each reared a Lamb in 1909 . . .	10	5	3

DEVON LONG-WOOL. ¹⁰			
RAM, TWO-SHEAR and up- wards . . .	10	5	3
SHEARLING RAM . . .	10	5	3
THREE SHEARLING EWES . . .	10	5	3

SOUTH DEVON. ¹¹			
TWO SHEAR RAM . . .	10	5	-
SHEARLING RAM . . .	10	5	-
THREE RAM LAMBS, dropped in 1909 . . .	10	5	-
THREE SHEARLING EWES . . .	10	5	-
THREE EWE LAMBS, dropped in 1909 . . .	10	5	-

- ¹ Offered by the Suffolk Sheep Society.
² £30 provided by the Dorset Horn Sheep Breeders' Association.
³ £28 provided by the Ryeland Flock Book Society.
⁴ £26 provided by the Kerry Hill (Wales) Flock Book Society.
⁵ £66 provided by the Lincoln Long-Wool Sheep Breeders' Association.
⁶ £15 provided by the Leicester Sheep Breeders' Association.
⁷ £10 provided by the Wensleydale Blue-faced Sheep Breeders' Association, and
£6 provided jointly by the Wensleydale Blue-faced Sheep Breeders' Association and
the Wensleydale Sheep Breeders' Association.
⁸ £48 provided by the Kent or Romney Marsh Sheep Breeders' Association.
⁹ £76 provided by the Cotswold Sheep Society.
¹⁰ £18 provided by the Devon Long-Woolled Sheep Breeders' Society.
¹¹ £30 provided by the South Devon Flock Book Association.

cxxxviii *Prize List for Gloucester Show, 1909.*

POULTRY—continued.

	Prizes		
	1st	2nd	3rd
French, Faverolle	20	10	5
French, other variety	20	10	5
Any other Breed	20	10	5

A Special Prize of 20s. for best Bird in above Classes.

TABLE FOWLS.

(To be sent and exhibited alive.)

PAIR of COCKERELS or PULLETS, pure-breed	20	10	5
PAIR of CROSS-BRED COCKERELS or PULLETS	20	10	5

DUCKS.

Drake or Young Drake,
Duck or Duckling.

Aylesbury	20	10	5
Rouen	20	10	5
Indian Runner	20	10	5
Any other breed	20	10	5

GEESE.

Gander and Goose.

Any variety	30	20	10
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TURKEYS.

Cock	30	20	10
Hen	30	20	10

PRODUCE (£321 5s.).

BUTTER.

Box of Twelve 2 lb. Rolls or Squares of BUTTER, not more than 1 per cent. salt.
1st 4l., 2nd 2l., 3rd 1l.

	Prizes		
	1st	2nd	3rd
TWO POUNDS OF FRESH BUTTER, without any salt, made up in plain pounds, made from the milk of Channel Island or South Devon Cattle and their crosses	2	1	10

TWO POUNDS OF FRESH BUTTER, without any salt, made up in plain pounds, from the milk of Cattle of any breed or cross other than those mentioned	2	1	10
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TWO POUNDS OF FRESH BUTTER, slightly salted, made up in plain pounds, from the milk of Channel Island or South Devon Cattle and their crosses	2	1	10
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TWO POUNDS OF FRESH BUTTER, slightly salted, made up in plain pounds, from the milk of Cattle of any breed or cross other than those mentioned	2	1	10
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SPECIAL PRIZES of 40s., 30s., 20s., and 10s. for the best Butter in above Class, made by residents in the County of Monmouth.¹

TWO POUNDS OF BUTTER made up in plain pounds from Sealed Cream	2	1	10
--	---	---	----

THREE POUNDS OF FRESH BUTTER, slightly salted, made up in pounds in the most attractive marketable designs	2	1	10
--	---	---	----

BUTTER—continued.

	Prizes		
	1st	2nd	3rd
THREE POUNDS OF FRESH BUTTER, slightly salted, made up in pounds and packed in non-returnable boxes for transmission by rail or parcel post	2	1	10

CHEESE (made in 1909).

	Prizes			
	1st	2nd	3rd	4th

3 Cheeses in each Entry.	£	£	£	£
CHEDDAR, of not less than 50 lb. each	5	3	2	1
CHEDDAR TRUCKLE	3	2	1	-
COLOURED CHESHIRE, of not less than 40 lb. each	4	3	2	1
UNCOLOURED CHESHIRE, of not less than 40 lb. each	4	3	2	1
STILTON	3	2	1	-
WENSLEYDALE	3	2	1	-
DOUBLE GLOUCESTER, of not less than 22 lb. each	4	3	2	1
SINGLE GLOUCESTER, of not less than 13 lb. each	3	2	1	-
STAFFORDSHIRE or DERBYSHIRE	3	2	1	-
CAERPHILLY	3	2	1	-

SPECIAL PRIZES of 30s., 20s., and 10s. for the best Caerphilly Cheeses, made by residents in the County of Monmouth.¹

CIDER AND PERRY.

	Prizes		
	1st	2nd	3rd
Cask of DRY CIDER, made in 1908	5	3	2
Cask of SWEET CIDER, made in 1908	5	3	2
Cask of CIDER, made previous to 1908	5	3	2
ONE DOZ. DRY CIDER, made in 1908	4	2	1
ONE DOZ. SWEET CIDER, made in 1908	4	2	1
ONE DOZ. CIDER, made previous to 1908	4	2	1
ONE DOZ. DRY PERRY	4	2	1
ONE DOZ. SWEET PERRY	4	2	1

SPECIAL PRIZES of 35s., 25s., and 10s. (I.) for the best cask of Sweet Cider; (II.) for the best exhibit of Sweet Cider made by residents in the County of Monmouth.¹

A CHALLENGE CUP for the best exhibit of Cider.²

WOOL (of 1909 Clip).

3 Fleeces in each Entry.

	Prizes		
	1st	2nd	3rd
Leicester or Border Leicester	3	2	1
Lincoln	3	2	1
Kent or Romney Marsh	3	2	1
Cotswold	3	2	1
Devon Long Wool	3	2	1
South Devon	3	2	1
Any other Long Wool	3	2	1
Southdown	3	2	1
Shropshire	3	2	1
Kerry Hill	3	2	1
Any other Short Wool	3	2	1
Welsh	3	2	1
Cheviot	3	2	1
Scotch	3	2	1

¹ Offered by the Monmouthshire Agricultural Education Committee.

² Offered by Cider Growers of the West of England.

HIVES, HONEY, AND BEE APPLIANCES.

Offered by British Bee-keepers' Association.	Prizes		
	1st	2nd	3rd
Collection of HIVES . . .	80	40	20
FRAME HIVE . . .	20	15	10
Do. for Cottagers' use . . .	20	15	10
HONEY EXTRACTOR . . .	15	10	-
OBSERVATORY HIVE (not less than 3 frames) . . .	20	15	10
USEFUL APPLIANCES. . .	10	-	-

HONEY.

For the purposes of Classes for Honey the United Kingdom has been divided into Two Districts:—

- Counties of Cheshire, Cumberland, Derby, Durham, Hereford, Lancashire, Leicester, Lincoln, Monmouth, Northumberland, Nottingham, Rutland, Salop, Stafford, Warwick, Westmorland, Worcester, Yorkshire, the Isle of Man, Ireland, Scotland, or Wales.
- Counties of Bedford, Berks., Bucks., Cambridge, Cornwall, Devon, Dorset, Essex, Gloucester, Hampshire, Herts., Hunts., Isle of Wight, Kent, Middlesex, Norfolk, Northampton, Oxford, Somerset, Suffolk, Surrey, Sussex, or Wiltshire.

For each of the above Districts the following four Classes and Prizes, for Honey of any year, have been provided:—

HONEY.

	Prizes		
	1st	2nd	3rd
12 Sections of COMB HONEY, about 12lb. . .	20	15	10
RUN OR EXTRACTED, LIGHT-COLOURED HONEY, about 12lb. . .	20	15	10
RUN OR EXTRACTED, MEDIUM OR DARK-COLOURED HONEY, about 12lb. . .	20	15	10
GRANULATED HONEY, about 12 lb. . .	20	15	10

MISCELLANEOUS.

3 Shallow frames of COMB HONEY, for extracting . . .	20	15	10
6 Jars of HEATHER HONEY, about 6 lb. . .	20	15	10
6 Jars of HEATHER MIXTURE EXTRACTED HONEY, about 6 lb. . .	20	15	10
DISPLAY OF HONEY . . .	30	20	10
2lb. of WAX . . .	10	7	5
3lb. of WAX, in marketable form, suitable for retail trade . . .	10	7	5
HONEY VINEGAR, 1 quart. . .	7	5	-
MEAD, 1 quart . . .	7	5	-
OTHER PRACTICAL EXHIBITS. . .	10	-	-
OTHER SCIENTIFIC EXHIBITS . . .	10	-	-

HORSE-SHOEING COMPETITIONS (£50).

(Open to the United Kingdom.)

CLASS I. Hunters. CLASS II. Cart Horses.

Prizes in each Class as follows:—1st, 3*l.* 10*s.*; 2nd, 3*l.*; 3rd, 2*l.* 10*s.*; 4th, 2*l.*; 5th, 1*l.* 10*s.*; 6th, 1*l.*

A Gold Medal will be presented to the First Prize Winner in each Class.¹

A Silver Medal and a Bronze Medal in each Class to be competed for by Members of the National Master Farriers' Association.²

BUTTER-MAKING COMPETITIONS (£66).

The Competitions on Tuesday, Wednesday, and Thursday, will be open only to those resident in the Counties of Gloucester, Wiltshire, Dorset, Worcester, Hereford, Monmouth, Glamorgan, Somerset, Devon, and Cornwall, who have been pupils or received instruction in Dairying at their respective County Council Institutes or Dairy Schools since the 1st day of January, 1906, and who have never won a Prize at the Shows of the R.A.S.E., Bath and West, Royal Counties, and at the London Dairy Show.

The Competition on Saturday will be open only to the Prize Winners in the three previous Competitions.

The following Prizes are offered on each day:—1st Prize, 5*l.*; 2nd Prize, 3*l.*; 3rd Prize, 2*l.*; 4th Prize, 1*l.*; 5th Prize, 10*s.* Certificates of Merit will be given to those candidates obtaining 86 points out of a possible 100.

Special Prizes of 5*l.*, 3*l.*, and 2*l.* for the three Candidates resident in the County of Gloucester, who obtain the highest number of marks in the Competitions.³

Special Prizes of 4*l.*, 3*l.*, 2*l.*, and 1*l.* for the three Candidates resident in the County of Monmouth who have attended the Dairy or Cheese Schools of the County, and who obtain the highest number of marks in the Competitions.⁴

¹ Offered by the Worshipful Company of Farriers.

² Offered by the National Master Farriers' Association.

³ Offered by the Gloucester Local Committee.

⁴ Offered by the Monmouthshire Agricultural Education Committee.

FARM PRIZES (£660).*(Open to bonâ-fide Tenant Farmers.)***For the best-managed Farms in Gloucestershire and Wiltshire (Classes I. to IV.).¹****CLASS I.**—Farm of 300 acres or over, chiefly Arable, exclusive of Down. 1st Prize, 100*l.*; 2nd Prize, 50*l.* (21 entries.)**CLASS II.**—Farm of 50 acres or over and under 300 acres, chiefly Arable. 1st Prize, 50*l.*; 2nd Prize, 25*l.* (5 entries.)**CLASS III.**—Farm of 200 acres or over, chiefly Pasture, exclusive of Down. 1st Prize, 50*l.*; 2nd Prize, 25*l.* (13 entries.)**CLASS IV.**—Farm of under 200 acres, chiefly Pasture. 1st Prize, 30*l.*; 2nd Prize, 15*l.* (8 entries.)**For the best-managed Farms in Herefordshire and Worcestershire
(Classes V. to VIII.).²****CLASS V.**—Farm of 200 acres or over. Arable and Pasture. 1st Prize, 60*l.*; 2nd Prize, 30*l.*; 3rd Prize, 15*l.* (15 entries.)**CLASS VI.**—Farm of 50 acres or over and under 200 acres, Arable and Pasture. 1st Prize, 40*l.*; 2nd Prize, 20*l.*; 3rd Prize, 10*l.* (10 entries.)**CLASS VII.**—Farm of over 50 acres, of which not less than 20 per cent. is under Hops and Fruit. 1st Prize, 60*l.*; 2nd Prize, 30*l.*; 3rd Prize, 15*l.* (3 entries.)**CLASS VIII.**—Farm of 10 acres or over and not exceeding 50 acres, chiefly devoted to Fruit Growing and Market Gardening. 1st Prize, 20*l.*; 2nd Prize, 10*l.*; 3rd Prize, 5*l.* (no entries.)¹ Offered by the Gloucester Local Committee.² Offered by the Herefordshire and Worcestershire Agricultural Society.

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 London and Kelso, 1908.....*James Hunter, Ltd.*
Encyclopædia of Agriculture. Edited by C. E. Green and D. Young.
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 Petroleum Lamp; its Choice and Use. 8vo. London, 1902
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 London, 1908..... *Secretary of State for India*

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Royal Agricultural Society of England.

INCORPORATED BY ROYAL CHARTER 26TH MARCH, 1840.

PRESIDENT FOR 1909:

THE EARL OF JERSEY, G.C.B.

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SUBSCRIPTIONS.—1. *Annual.*—The minimum subscription of a Governor is £5 and that of a Member £1, due in advance on the 1st of January of each year, and becoming in arrear if unpaid by the 1st of June.

2. *For Life.*—Governors may compound for their subscriptions for future years by paying at once the sum of £50, and Members by paying £15. After payment of ten or more annual subscriptions, a Member may compound for future subscriptions, including that of the current year, by a single payment of £10; and after payment of twenty or more annual subscriptions, by a single payment of £5—or £25 in the case of Governors.

ELECTION OF NEW MEMBERS.—Every candidate for admission into the Society must be proposed by a Member, who must specify in writing the full name, occupation, and usual place of residence of the candidate. Forms of proposal may be obtained on application to the Secretary, who will inform new Members of their election by letter.

PRIVILEGES OF MEMBERSHIP:—

General Privileges, page II.

Chemical, pages III to V.

Zoological, page VII.

Botanical, pages VI and VII.

Veterinary, page VIII.

The Society at present consists of about 9,700 Members.

All communications as to Membership or on the general business of the Society should be addressed to the Secretary, at 16 Bedford Square, London, W.C.

THOMAS McROW,
Secretary.

16 BEDFORD SQUARE, W.C.
December, 1908.

Telegraphic Address: "PRACTICE, LONDON." Telephone Number: "GERRARD 3675."

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The Society holds every year an Exhibition of Live Stock, Farm Produce, and Implements, to which, and to the Grand Stands at the Horse Ring, Dairy, and elsewhere, Members are entitled to free admission. The Show of 1909 will be held at Gloucester, from June 22 to 26.

REDUCED RATES FOR ENTRY OF LIVE STOCK AND IMPLEMENTS.

No entry fee is charged to Members exhibiting Implements at the Shows. Firms and Companies may secure these privileges by the Membership of one or more of their partners. Entries of Horses, Cattle, Sheep, Pigs, Poultry, Produce, &c., can be made by Members at reduced rates.

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GENERAL MEETINGS OF GOVERNORS AND MEMBERS.

The Annual General Meeting of Governors and Members is held in London during the week of the Smithfield Club Show. A General Meeting is usually held also in the Showyard during the week of the Show.

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In addition to the privileges of Members, as described above, Governors are entitled to an extra copy of each Volume of the Journal; to attend and speak at all meetings of the Council, and are alone eligible for election as President, Trustee, and Vice-President. The minimum Annual Subscription of a Governor is £5, with a Life Composition of £50.

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(Applicable only to the case of persons who are not commercially engaged in the manufacture or sale of any substance sent for Analysis.)

The Council have fixed the following rates of Charges for Chemical Analysis to Members of the Society.

These privileges are applicable only when the Analyses are for *bonâ fide* agricultural purposes, and are required by Members of the Society for their own use and guidance in respect of farms or land in their own occupation and within the United Kingdom.

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	£ s. d.
1.—An opinion on the purity of any Fertiliser or Feeding Stuff (so far as this can be given without detailed analysis)	0 1 0
2.—Determination of any <i>one</i> constituent in a Fertiliser or Feeding Stuff	0 2 6
3.—Commercial Analysis of any ordinary Fertiliser or Feeding Stuff	0 5 0
4.—Full Analysis of any compound Fertiliser or Feeding Stuff	0 10 0
5.—Analysis of any other material in ordinary use for agricultural purposes.	0 10 0
6.—Analysis of Milk, Cream, Butter, or other Dairy produce from Members' own farms	0 2 6
(N.B.—Samples in any way connected with the Sale of Food and Drugs Acts are not undertaken for analysis.)	
7.—Analysis of Water	1 10 0
8.—Analysis of Soil—determination of Lime only	0 10 0
9.—Analysis of Soil—partial	1 0 0
10.—Analysis of Soil—complete	3 0 0
11.—Consultation by letter or personal appointment	0 5 0

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Instructions for Selecting and Sending Samples for Analysis.

GENERAL RULES.—(1.) A sample taken for analysis should be fairly *representative of the bulk* from which it has been drawn.—(2.) The sample should reach the Analyst *in the same condition* that it was in at the time when drawn.

When **Fertilisers** are delivered in bags, select four or five of these from the bulk, and either turn them out on a floor and rapidly mix their contents, or else drive a shovel into each bag and draw out from as near the centre as possible a couple of shovelfuls of the manure, and mix these quickly on a floor.

Halve the heap obtained in either of these ways, take one half (rejecting the other) and mix again rapidly, flattening down with the shovel any lumps that appear. Repeat this operation until at last only some three or four pounds are left.

From this fill three tins, holding from $\frac{1}{2}$ lb. to 1 lb. each, mark, fasten up and seal each of these. Send one for analysis, and retain the others for reference.

Or,—the manure may be put into glass bottles provided with well-fitting corks; the bottles should be labelled and the corks sealed down. The sample sent for analysis can be packed in a wooden box and sent by post or rail.

When manures are delivered in bulk, portions should be successively drawn from *different parts* of the bulk, the heap being turned over now and again. The portions drawn should be thoroughly mixed, subdivided, and, finally, samples should be taken as before, except that when the manure is coarse and bulky it is advisable to send larger samples than when it is in a finely divided condition.

Linseed, Cotton, and other Feeding Cakes.—If a single cake be taken, three strips should be broken off right across the cake, and from the middle portion of it, one piece to be sent for analysis, and the other two retained for reference. Each of the three pieces should be marked, wrapped in paper, fastened up, and sealed. The piece forwarded for analysis can be sent by post or rail.

A more satisfactory plan is to select four to six cakes from different parts of the delivery, then break off a piece about four inches wide from the middle of each cake, and pass these pieces through a cake-breaker. The broken cake should then be well mixed and three samples of about 1 lb. each should be taken and kept in tins or bags, duly marked, fastened, and sealed as before. One of these lots should be sent for analysis, the remaining two being kept for reference. It is advisable also with the broken pieces to send a small strip from an unbroken cake.

Feeding Meals, Grain, &c.—Handfuls should be drawn from the centre of half a dozen different bags of the delivery; these lots should then be well mixed, and three $\frac{1}{2}$ -lb. tins or bags filled from the heap, each being marked, fastened up, and sealed. One sample is to be forwarded for analysis and the others retained for reference.

Soils.—Have a wooden box made 6 inches in length and width, and from 9 to 12 inches deep, according to the depth of soil and subsoil of the field. Mark out in the field a space of about 12 inches square; dig round in a slanting direction a trench, so as to leave undisturbed a block of soil and its subsoil 9 to 12 inches deep; trim this block to make it to fit into the wooden box, invert the open box over it, press down firmly, then pass a spade under the box and lift it up, gently turn over the box, nail on the lid, and send by rail. The soil will then be received in the position in which it is found in the field.

In the case of very light, sandy, and porous soils, the wooden box may be at once inverted over the soil, forced down by pressure, and then dug out.

Waters.—Samples of water are best sent in glass-stoppered Winchester bottles, holding half a gallon. One such bottle is sufficient for a single sample. Care should be taken to have these scrupulously clean. In taking a sample of water for analysis it is advisable to reject the first portion drawn or pumped, so as to obtain a sample of the water when in ordinary flow. The bottle should be rinsed out with the water that is to be analysed, and it should be filled nearly to the top. The stopper should be secured with string, or be tied over with linen or soft leather. The sample can then be sent carefully packed either in a wooden box with sawdust, &c., or in a hamper with straw.

Milk.—A pint bottle should be sent in a wooden box.

GENERAL INSTRUCTIONS. Time for Taking Samples.—All samples, both of fertilisers and feeding stuffs, should be taken as soon after their delivery as possible, and should reach the Analyst within *ten days* after delivery of the article. In every case it is advisable that the Analyst's certificate be received before a fertiliser is sown or a feeding stuff is given to stock.

Procedure in the Event of the Vendor wishing Fresh Samples to be Drawn.—Should a purchaser find that the Analyst's certificate shows a fertiliser or feeding stuff not to come up to the guarantee given him, he may inform the vendor of the result and complain accordingly. He should then send to the vendor *one* of the two samples which he has kept for reference. If, however, the vendor should demand that a fresh sample be drawn, the purchaser must allow this, and also give the vendor an opportunity of being present, either in person or through a representative whom he may appoint. In that case three samples should be taken in the presence of both parties with the same precautions as before described, *each* of which should be duly packed up, labelled and sealed by both parties. One of these is to be given to the vendor, one is to be sent to the Analyst, and the third is to be kept by the purchaser for reference or future analysis if necessary.

Suggestions to Purchasers of Fertilisers and Feeding Stuffs.

Purchasers are recommended in all cases to insist on having an **INVOICE**, and to see that such invoice contains the following particulars:—

In the case of **Fertilisers**:—

- (1) The name of the Fertiliser.
- (2) Whether the Fertiliser is artificially compounded or not.
- (3) The minimum analysis of the Fertiliser in respect of its principal fertilising ingredients.

In the case of artificially prepared **Feeding Stuffs** for Cattle:—

- (1) The name of the article.
- (2) The description of the article—whether it has been prepared (a) from one substance or seed, or (b) from more than one substance or seed.

For example:

- (a) An invoice describing an article as "Linseed Cake" implies a warranty that the article is pure, *i.e.*, is prepared from linseed only; "Cotton Cake" (whether decorticated or undecorticated), and "Rape Cake" (for feeding purposes), would come under a similar category.

Purchasers are reminded that the use of such terms as "95 per cent.," "Oil Cake," &c., affords no security against adulteration. The adoption of the ORDER FORM issued by the Society is therefore strongly recommended.

- (b) In the case of a Compound Cake or Feeding Stuff, a Vendor is only compelled by the Fertilisers and Feeding Stuffs Act of 1893 to state that it is prepared from more than one substance, and he is not required to specify the particular materials used in its preparation. Purchasers are recommended, therefore, to buy Mixed Feeding Cakes, Meals, &c., with a guaranteed analysis. Any statements in the invoice as to the component parts of such Mixed Cake or Meal will take effect as a warranty, as also will any statements in an invoice, circular, or advertisement as to the percentages of nutritive and other ingredients in any article sold for use as food for cattle.

Members of the Society are strongly recommended not only to see that the invoices given to them accurately describe the goods they have ordered, but to make all their orders subject to the *Analysis and Report of the Consulting Chemist of the Royal Agricultural Society of England*. Copies of a Form of Order for this purpose may be obtained on application to the Secretary.

Attention is particularly directed to the recommendations below as to the qualities of Fertilisers and Feeding Stuffs which purchasers should demand.

Conditions of Purchase and Sale.

FERTILISERS.

Raw Bones, Bone-meal, or Bone-dust to be guaranteed "PURE," and to contain not less than 45 per cent. of Phosphate of Lime, and not less than 4 per cent. of Ammonia.

Steamed or "Degelatinised" Bones to be guaranteed "PURE," and to contain not less than 55 per cent. of Phosphate of Lime, and not less than 1 per cent. of Ammonia.

Mineral Superphosphate of Lime to be guaranteed to contain a certain percentage of "Soluble Phosphate." [From 25 to 28 per cent. of Soluble Phosphate is an ordinarily good quality.]

Dissolved Bones to be guaranteed to be "made from raw bone and acid only," and to be sold as containing stated minimum percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia.

Compound Artificial Manures, Bone Manures, Bone Compounds, &c., to be sold by analysis stating the minimum percentages of Soluble Phosphate, Insoluble Phosphates, and Ammonia contained.

Basic Slag to be guaranteed to be sufficiently finely ground that 80 to 90 per cent. passes through a sieve having 10,000 meshes to the square inch, and to contain a certain percentage of Phosphoric Acid or its equivalent in Phosphate of Lime. [The highest grades range from 17 to 20 per cent. of Phosphoric Acid; medium grades 14 to 16 per cent.; and low grades from 10 to 12 per cent. of Phosphoric Acid.]

Peruvian Guano to be described by that name, and to be sold by analysis stating the minimum percentages of Phosphates and Ammonia.

Sulphate of Ammonia to be guaranteed "PURE," and to contain not less than 24 per cent. of Ammonia.

Nitrate of Soda to be guaranteed "PURE," and to contain 95 per cent. of Nitrate of Soda.

Kainit to be guaranteed to contain 23 per cent. of Sulphate of Potash.

All Fertilisers to be delivered in good and suitable condition for sowing.

FEEDING STUFFS.

Linseed Cake, Cotton Cake (Decorticated and Undecorticated), and **Rape Cake** (for feeding purposes) to be pure, *i.e.*, prepared only from the one kind of seed from which their name is derived; and to be in sound condition. The Report of the Consulting Chemist of the Royal Agricultural Society of England to be conclusive as to the "purity" or otherwise of any feeding stuffs.

Mixed Feeding Cakes, Meals, &c., to be sold on a guaranteed analysis, to be sound in condition, and to contain nothing of an injurious nature, or ingredients that are worthless for feeding purposes.

Members' Botanical Privileges.

The Council have fixed the following rates of charge for the examination of Plants and Seeds by the Society's Consulting Botanist.

The charge for examination must be paid at the time of application, and the carriage of all parcels must be prepaid.

- 1.—A report on the purity, amount, and nature of foreign materials, the perfectness and germinating power of a sample of seed . . . 1s.
- 2.—Determination of the species of any weed or other plant, or of any epiphyte or vegetable parasite, with a report on its habits, and the means for its extermination or prevention . . . 1s.
- 3.—Report on any disease affecting farm crops . . . 1s.
- 4.—Determination of the species of a collection of natural grasses found in any district, with a report on their habits and pasture value . . . 5s.

N.B.—The Consulting Botanist's Reports on Seeds are furnished to enable Members—purchasers of seeds and corn for agricultural or horticultural purposes—to test the value of what they buy, and are not to be used or made available for advertising or trade purposes.

PURCHASE OF SEEDS.

The purchaser should obtain from the vendor, by invoice or other writing, the proper designation of the seeds he buys, with a guarantee of the percentage of purity and germination, and of its freedom from ergot, and, in the case of clover, from the seeds of dodder and broom-rape.

It is strongly recommended that the purchase of *prepared mixtures* of seeds should be avoided. The different seeds should be purchased separately and mixed by the farmer. Mixtures cannot be tested for germination.

Copies of an "Order Form and Conditions of Purchase and Sale of Seeds" may be obtained by Members on application to the Secretary, at 16 Bedford Square, London, W.C.

THE SAMPLING OF SEEDS.

The utmost care should be taken to secure a fair and honest sample. This should be drawn from the bulk delivered to the purchaser, and not from the sample sent by the vendor.

When legal evidence is required, the sample should be taken from the bulk, and placed in a sealed bag in the presence of a witness. Care should be taken that the sample and bulk be not tampered with after delivery, or mixed or brought in contact with any other sample or bulk.

At least one ounce of grass and other small seeds should be sent, and two ounces of cereals and the larger seeds. When the bulk is obviously impure, the sample should be at least double the amount specified. Grass seeds should be sent at least four weeks, and seeds of clover and cereals two weeks before they are to be used.

The exact name under which the sample has been sold and purchased should accompany it.

Members' Botanical Privileges—*continued.*

REPORTING THE RESULTS.

The Report will be made on a schedule in which the nature and amount of impurities will be stated, and the number of days each sample has been under test, with the percentage of the seeds which have germinated.

"Hard" clover seeds, though not germinating within the time stated, will be considered good seeds, and their percentage separately stated.

The impurities in the sample, including the chaff of the species tested, will be specified in the schedule, and only the percentage of the pure seed of that species will be reported upon; but the REAL VALUE of the sample will be stated. The Real Value is the combined percentages of purity and germination, and is obtained by multiplying these percentages and dividing by 100; thus in a sample of Meadow Fescue having 88 per cent. purity and 95 per cent. germination, 88 multiplied by 95 gives 8,360, and this divided by 100 gives 83·6, the Real Value.

SELECTING SPECIMENS OF PLANTS.

When a specimen is sent for determination, the whole plant should be taken up and the earth shaken from the roots. If possible, the plants must be in flower or fruit. They should be packed in a light box, or in a firm paper parcel.

Specimens of diseased plants or of parasites should be forwarded as fresh as possible. They should be placed in a bottle, or packed in tinfoil or oil-silk.

All specimens should be accompanied with a letter specifying the nature of the information required, and stating any local circumstances (soil, situation, &c.) which, in the opinion of the sender, would be likely to throw light on the inquiry.

Parcels or letters containing seeds or plants for examination (carriage or postage prepaid) must be addressed to Mr. W. CARRUTHERS, F.R.S., The Laboratory, 44 Central Hill, Norwood, London, S.E.

Members' Zoological Privileges.

The Council have fixed the charge of 1s. for information respecting any animal (quadruped, bird, insect, worm, &c.) which, in any stage of its life affects the farm or rural economy generally, with suggestions as to methods of prevention and remedy in respect to any such animal which may be injurious.

In inquiries concerning injuries, specimens of the injury done should accompany the animal supposed to cause it.

All specimens should be sent in tin or wooden boxes, or in quills, so as to prevent injury in transmission, and must be accompanied by the prescribed fees.

Parcels or letters containing specimens (carriage or postage paid) must be addressed to Mr. CECIL WARBURTON, M.A., Zoological Laboratory, Cambridge.

Members' Veterinary Privileges.

I.—ADMISSION OF SICK OR DISEASED ANIMALS TO THE ROYAL VETERINARY COLLEGE.

1. Members of the Society have all the privileges of subscribers to the Royal Veterinary College, Camden Town, N.W., so far as the admission for treatment of Cattle, Sheep, and Swine is concerned, without being called upon to pay the annual subscription to the College of two guineas. The charges made by the College for keep and treatment are as follows :—Cattle, 10s. 6d., and Sheep and Pigs, 3s. 6d. per week for each animal.

2. The full privileges of subscribers, including the examination of horses, and the admission of horses and dogs into the College Infirmary for surgical or medical treatment, on payment of the cost of keep, will be accorded to Members of the Society on payment of a subscription to the College of one guinea instead of two guineas per annum.

II.—FEES FOR CONSULTATIONS, ANALYSES, AND EXAMINATIONS AT THE ROYAL VETERINARY COLLEGE.

The following fees are payable by Members of the Society for services performed at the Royal Veterinary College on their behalf in cases where a visit to the locality is not involved :—

	£ s. d.
Personal consultation with a Veterinary Professor	0 10 6
Consultation by letter	0 10 6
Post-mortem examination of an animal, and report thereon	1 1 0
Chemical Examination of viscera for any specified metallic poison	0 10 6
Chemical Examination of viscera for metallic poisons	1 0 0
Chemical Examination of viscera for vegetable poisons	1 0 0
Chemical Examination of viscera complete, for metals and alkaloids	2 0 0

(The above fees do not apply to cases which involve a visit to the locality.)

III.—INVESTIGATION OF OUTBREAKS OF DISEASE AMONG FARM STOCK.

1. In the event of an outbreak of disease among Cattle, Sheep, or Swine occurring on the farm of any Member of the Society, application should at once be made to the Principal of the Royal Veterinary College, Camden Town, London, N.W.

2. The Principal will then instruct an officer of the College to inquire into the outbreak and report to him. He will also fix the amount of remuneration to be paid to the Inspector, whose professional fee will in no case exceed two guineas per day, exclusive of the actual cost of travelling and maintenance.

3. When it appears on the report of the Inspector selected that the outbreak was of an important character, or of general interest, the cost of the investigation will be defrayed by the Royal Veterinary College.

4. An annual grant is made by the Society to the Royal Veterinary College in aid of the further development of Cattle Pathology. In order to assist the authorities of the College in making the necessary investigations, Members of the Society are particularly requested to send to the College any diseased animals (cattle, sheep, or swine) which they would otherwise destroy as useless, and also any specimens of diseased parts of an unusual character. In the event of living animals being sent, it will be necessary to telegraph to the College at Camden Town the time of their arrival at a London station, so that a van may be sent to meet them. The expense of transit will be defrayed by the Royal Veterinary College.

[This Form may be torn out, and when filled up and signed should be forwarded to the Secretary of the Society at 16 Bedford Square, London, W.C.]

Royal Agricultural Society of England.

APPLICATION FOR MEMBERSHIP.

I _____

of _____

in the county of _____

^{or} *Governor* am desirous of becoming a Member^s of the Royal Agricultural

Society of England, and engage, when elected, to pay an Annual
Subscription of £† ..

and to conform to the Rules and Regulations of the Society until the
termination of the year in which I shall withdraw from it by notice, in
writing, to the Secretary.

(Signature) _____

Date _____

Nominated by _____

Elected at the Council Meeting held on _____

Secretary.

† The Council trust that all Members who are disposed to give a larger annual Subscription than the minimum of £1 prescribed by the By-laws will be kind enough to do so, in order that the Society's operations may be maintained.

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No. 1, A DIARY, combining Cash Account with daily record of Farm Transactions. Price 4s.
No. 2, A FARM ACCOUNT BOOK, showing payments and receipts, and supplying a form of Annual Balance Sheet. Price 5s. 6d. Published for the Society and sold by Messrs. FORSTER, GROOM & Co., Ltd., 15 Charing Cross, London, S.W.

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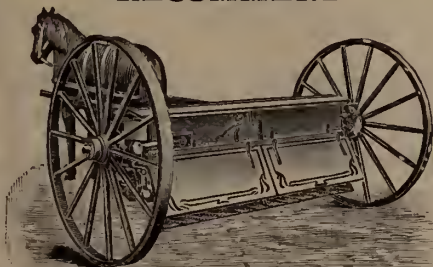
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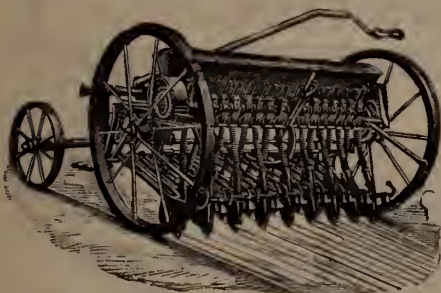
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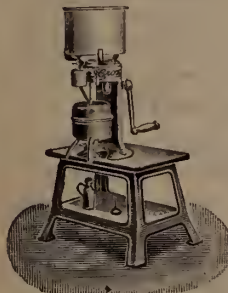
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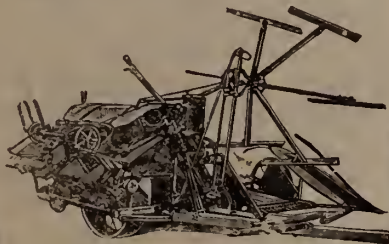
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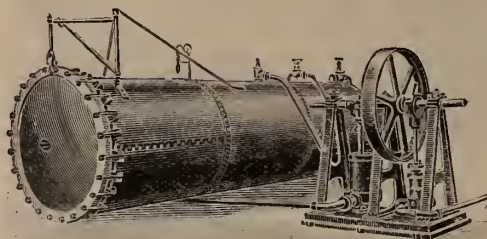
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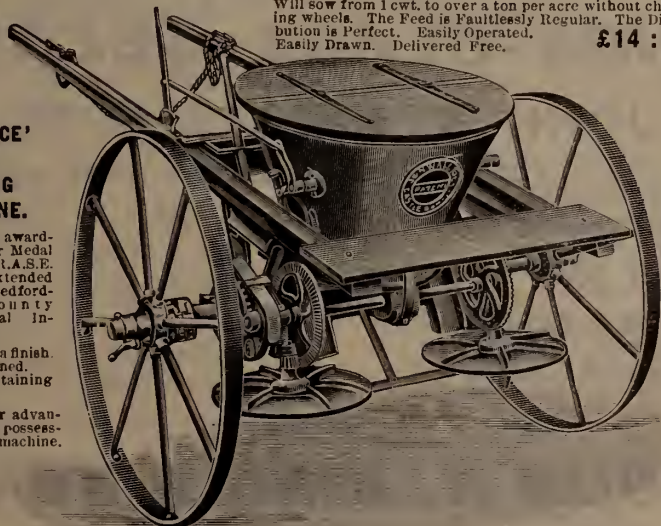
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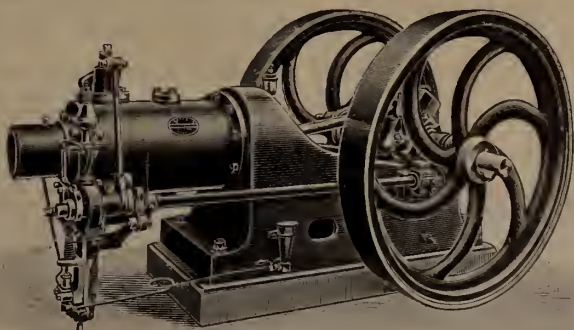
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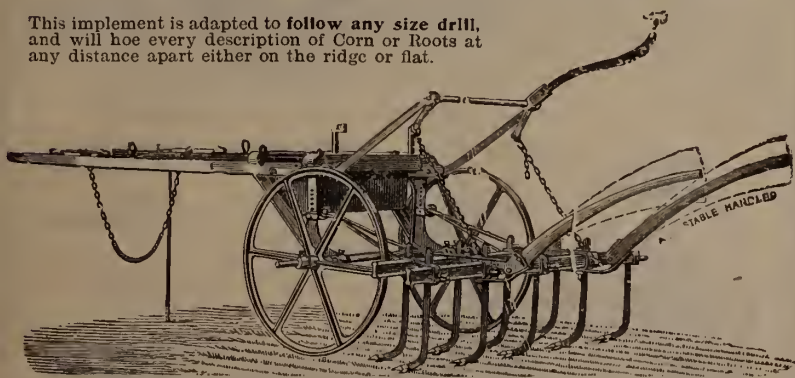
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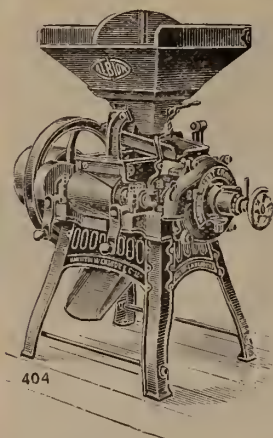
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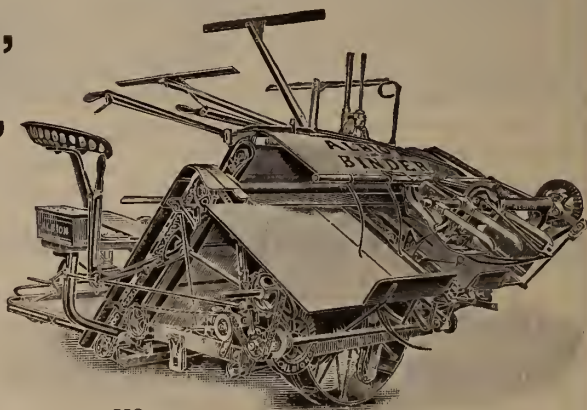


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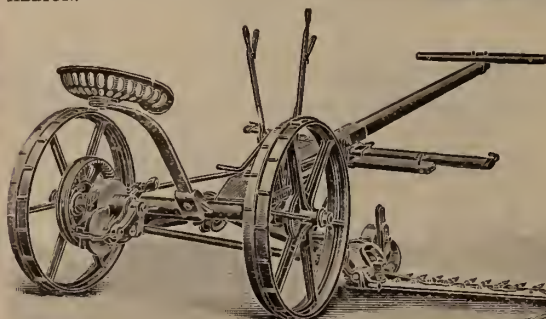
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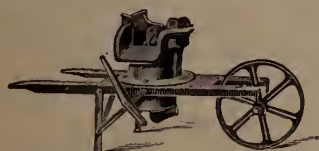
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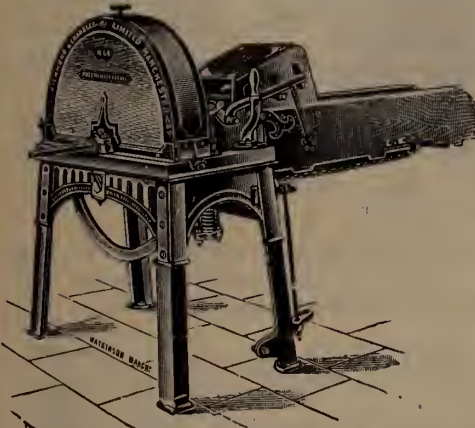
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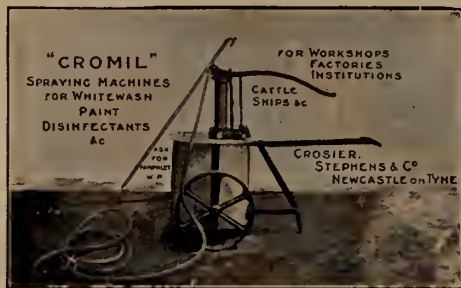
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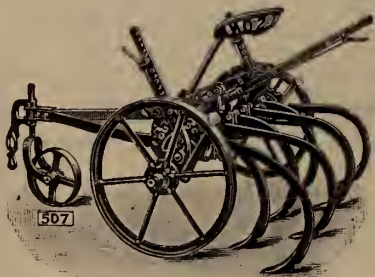
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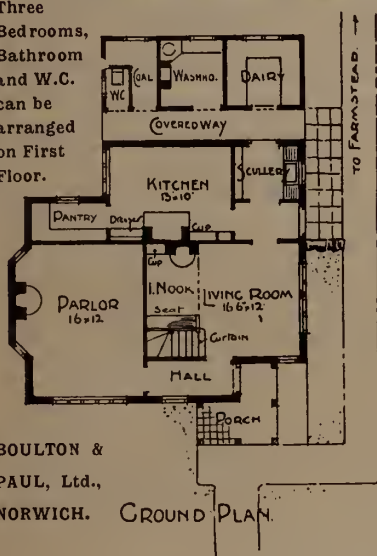
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Tuesday, April 20	Thursday, July 22
Tuesday, April 27	Tuesday, July 27
Tuesday, May 4	Tuesday, August 3
Tuesday, May 11	Tuesday, August 10
Tuesday, May 18	Tuesday, October 12
Tuesday, May 25	Tuesday, October 19
Tuesday, June 8	Tuesday, October 26
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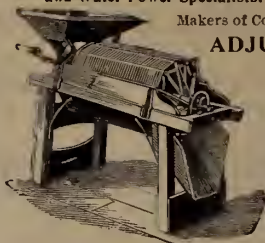
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Seventieth ANNUAL SHOW
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HORSES—continued.

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CATTLE—continued.

Aberdeen Angus.

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BREEDERS' DIRECTORY.

CATTLE—continued.

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BREEDERS' DIRECTORY.

CATTLE—continued.

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CATTLE—continued.

Shorthorns.

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BREEDERS' DIRECTORY.

CATTLE—continued.

Shorthorns.

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CATTLE—continued.

Shorthorns.

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BREEDERS' DIRECTORY.

CATTLE—continued.

Various.

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SHEEP.

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SHEEP—continued.

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*SHEEP—continued.***Oxford Downs.**

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PIGS—continued.

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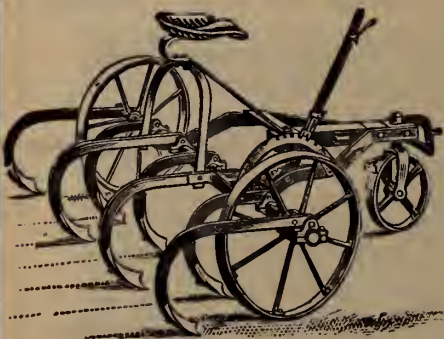


D D X, with two wheels, and skim coulter, weight 200 lbs.	4	5	0
L B X, with two wheels, and skim coulter, weight 236 lbs.	5	0	0
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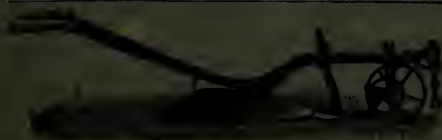
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